

The background of the cover is a painting. It depicts a coastal scene. In the foreground, there is a dark, textured brown area that looks like a plowed field or a path. Above this is a green grassy hill. On the hill, there are several trees with thin, gnarled trunks and sparse green leaves. In the background, there is a body of water, possibly a bay or a lake, with a few birds flying over it. The sky is a pale yellow color with some faint, wispy clouds. The overall style is somewhat impressionistic or painterly.

# Animals, Humans, and Kant

LESLIE STEVENSON



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*Cartografías filosóficas*



# ANIMALS, HUMANS, AND KANT

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# ANIMALS, HUMANS, AND KANT

**tirant humanidades**

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# PRESENTATION

“Cartografías filosóficas” was born in 2022 as a philosophical collection of Tirant lo Blanch. It includes works related to the history of philosophy and its problems; it pays special attention to the conceptual networks of modernity and of contemporary times, as well as to classical German philosophy. It is the editorial body of the research group “Kant-València”, based in the Department of Philosophy at the University of Valencia.

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## PREFACE

This is a dual-track inquiry. On one hand I offer a tripartite conceptual framework that can apply to three central areas in the philosophy of mind: perception, action and emotion. On the other hand, in separate chapters, I propose some re-evaluations of Immanuel Kant's eighteenth-century philosophy in the light of this. Anyone allergic to entangling with his difficult but rewarding thought could read only Chapters 1, 4, 6, and 8, which are Kant-free. But I cannot recommend the reverse selection, for my musings about him depend on those chapters.

I come not to praise Kant (his genius does not need my praise), nor to bury him under another layer of historical scholarship, but to ask what adaptations of his views advance our understanding of human nature. Kant-scholars should be forewarned: my attitude to Kant is more reconstructive than reproductive, more Strawsonian than Allisonian — though I guess without the insight or industry of either.

One main stimulus for this inquiry is Tyler Burge's magisterial survey of the philosophy and psychology of perception, in which he remarks:

The threefold distinction between sensory discrimination (or functioning information registration) ... perception and propositional thought ... is foreign to most philosophical systems. This criticism applies both to twentieth-century philosophy and to earlier philosophy. Kant is a major exception. He distinguished sensation, intuitions, and concepts. (2010), 431

In Part One I apply these distinctions to perception, including perception of spatial and temporal relations. In Part Two I suggest analogical applications of this threefold distinction to action and emotion. However, Part Two is sketchier than my treatment of perception, a topic which has occupied me for many years — see my (1995), (1998a), (1998b), (2000), (2018a) and (2018b). Perhaps others can take the suggestions in Part Two forward, uncovering further complications.

I have tried to write in a clear and vivid style, employing a variety of real-life examples in the effort to keep philosophical theorizing anchored to the realities of life. Much academic philosophy has become specialized, and inaccessible to those who not familiar with the constantly-updating literature: witness the virtuoso displays of conceptual ingenuity and scholarly industry in the professional journals. However, I believe there is still a place for philosophy as a humane discipline discussing issues of central importance to human life in a way that is intelligible to anyone with enough interest to follow serious arguments. And there is a use for overviews, since professional competition encourages people to stay inside specialized boxes. I am writing at a middling sort of level, at risk of falling between the two stools of academic rigour or wider intelligibility. As successful examples I think of the work of Thomas Nagel and Roger Scruton — but to invite comparison with those masters is to invite ridicule.

This is not weapons-grade Kant scholarship, armoured with knowledge of every word he ever wrote (and many more that he didn't — all those student lecture-notes), encyclopaedic familiarity with the secondary literature, and an ingenious explanation of every quirk of the master's fluid terminology. What I offer is a ninefold story of three levels within each of perception, action and emotion, with some selective dives into Kant's amazingly comprehensive *oeuvre*.

My discussion strays a little over the borderlines between philosophy and psychology, cognitive science, and ethology, and I make no apology for that. Many philosophers seem loathe to get their hands dirty with empirical matters, but others have dipped into the relevant sciences — Kitcher (1990), Brook (1994), Hurley (1998), Bird (2006, pp.130–5), and most especially Burge (2010). I cannot emulate the interdisciplinary range of the latter, but I suggest how Kant's emphasis on rationality in human nature can be illuminated by approaching it 'from below', from various animal natures.

# PART ONE





## CHAPTER ONE

### SENSATION/PERCEPTION/JUDGMENT

In his *Critique of Pure Reason* of 1781 (to my mind, the greatest philosophical work of all time, though not perfect) Immanuel Kant drew a firm distinction between our mental faculties of sensibility and understanding, dealing respectively with perceptions and concepts. By this fundamental insight he made crucial philosophical progress over his empiricist and rationalist predecessors.<sup>1</sup>

I am going to argue that we need to make a further distinction, to recognize *unconceptualized* perceptions, as they occur in many animal species, in human infants, and in our adult awareness of nameless sounds, smells, tastes, pressures, and movements behind our backs. Throughout this work I will use the word ‘perception’ in its modern sense of sensory awareness of objects and states of affairs in the physical world distinct from the perceiver.<sup>2</sup>

I follow the lead of Tyler Burge in his comprehensive survey *Origins of Objectivity* of the philosophy and psychology of perception in animals and humans. His over-arching theme is to distinguish non-conceptual perceptual representation from mere sensory registration on one hand, and from conceptualized perceptual judgment on the other. He compliments Kant for making a threefold distinction between sensations, intuitions and concepts, which he suggests can be lined up with sensory registration, perception, and propositional thought. I will address these themes in Kant in Chapters 2–5; in this chapter I offer

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1 Hume got half-way there when he distinguished ‘impressions’ and ‘ideas’ on the first page of his *Treatise of Human Nature*, but he spoilt the point by representing it as only a difference of *degree* of ‘force and liveliness’.

2 This is *not* the eighteenth-century usage of Hume and Kant, for whom all conscious mental states counted as ‘perceptions’.

a selective look at contemporary psychology and philosophy on these topics.

### 1.1 SENSORY REGISTRATION DISTINGUISHED FROM PERCEPTUAL REPRESENTATION

Sensory registration without perception is exemplified in bacteria, amoebae, paramecia, worms, molluscs and clams: they respond differentially to certain aspects of their physical environment such as light, heat, or magnetic field.<sup>3</sup> Their responses to such stimulations carry ‘information’ about what is affecting these creatures, but only in the sense of reliable statistical correlation. (Even some plants respond to certain stimuli: sunflowers follow the direction of the sun, and Venus Fly Traps enclose insects caught in their sticky fluid.) Molluscs close up whenever a shadow passes over them, as a defensive adaptation that reduces their chances of being eaten: they sensorily register the difference between light and shade, but they do not form any perceptual representations of the causes of shadows, they lack the neural apparatus to do that. A more surprising case of sensory registration is found in salmon, who navigate back from the far reaches of the ocean to the very rivers in which they were born, apparently guided by extremely dilute traces in the seawater. Impressive as this is, they do not have any perceptual representation of the chemistry of the water, or of the location of their home stream (though they do have some visual perception of their surroundings).<sup>4</sup>

There is some mere sensory registration in humans, such as blinking or flinching in response to flying objects or sudden loud noises, the instant withdrawal of a finger from a hot stove, and our instinctive revulsion from certain smells and tastes and from creatures with eight or more legs. Many insects emit chemicals called pheromones to communicate availability for mating. Humans have been known to resort to perfumes,

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3 Burge (2010), 315–9.

4 Burge (2010), 425–6.

but whether we respond to natural pheromones (erotic or otherwise) is an empirical question.

*Perception proper* is more than sensory registration, it involves *representations* that distinguish and track certain objects or states of affairs, their properties, location, and movements. That implies *perceptual constancies*, i.e., capacities to represent items in the environment as the same, despite varying stimulations on the perceiver's sense-organs. The term 'representation' has been promiscuously used (following Kant) to mean almost any kind of mental state or content, but to give explicit recognition to the natural kind *perception*. It is better not to talk of 'representation' at the level of mere sensory registration.<sup>5</sup>

Spatial perception is found in a wide variety of animals. Jumping spiders move in a tangle of twigs and vines to get into position to ambush their prey; their eight eyes obviously enable such precise navigation. Archer fish aim a gobble of spit at insects sitting on leaves above the water, allowing for the refraction of light at the surface, thus they knock the prey off its perch to be gobbled up for lunch. Most mammals and birds perceive mates, rivals, offspring, prey or predators, tracking them through space and time through a variety of perspectives, distances, lighting, and motion.<sup>6</sup>

There is a very specialized kind of perception in indigo bunting, who use the stars to guide their annual migration. As nestlings they observe the night sky and identify the centre of rotation (the Pole Star), but if they are raised under the artificial sky of a planetarium they will fix on whatever centre of rotation they are exposed to, so that when autumn comes round, they will use *that* to direct their flightpath. This is an innate, species-specific learning and navigational device which applies only to the direction of migration. It involves perception rather than mere sensory registration, for they have to identify one specific visible feature of their environment. The psychologist Susan Carey presents this as an

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5 Burge (2010), 292ff.

6 I will discuss spatial and temporal perception in more detail in Chapter 4.

example of what she calls ‘core cognition’, describing it as “conceptual, but not fully so”.<sup>7</sup> I will address that issue in the next section.

Physiology investigates the bodily mechanisms that make perceptual representation possible. In creatures with nervous systems, information registered on the sensory surfaces is processed in subtle ways, and neuroscience discovers more and more about these inner processes, which happen automatically, performed by specialized subsystems rather than the whole animal, not usually under its awareness or control. Some mechanisms in the buntings’ eyes, brains and wing muscles must mediate between their vision of the stars and their direction of flight, involving some neural computation of angles.

In the case of vision, the most thoroughly studied of the senses, there are computational mechanisms by which the light striking the retinas are transformed into perceptual representations as of objects of certain sizes and shapes and orientations. The patterns of incoming light are structured in two dimensions (the curvature of the retina not being functionally relevant). The retinal image is inverted, and there are two of them, yet we do not see things upside down or doubled. We do not *see* retinal images at all (unless we are optometrists.) The slight differences between the two images enable us to see spatial depth and the distances of nearby objects. This is the evolutionary explanation for the existence of two eyes in most creatures, perception of the proximity of prey and predators being crucial for survival. But there is no conscious computation of angles and lengths (even by those who have learnt some geometry); systems in our brain do that for us by transformations of physical properties of the retinal input.<sup>8</sup> This neural processing cannot become conscious or be controlled at will, but its functioning is shown by the persistence of visual illusions such as the Muller-Lyer and Escher’s paradoxical drawings even when one knows they are illusions.

Like other animals, humans have more senses than vision: touch is especially crucial to our awareness of the material world, though too

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7 Carey (2011), 15–16.

8 Marr (1982) was a pioneering work in this field.

often ignored. Our tactile and visual perceptions *interact*; our awareness of our own voluntary movements and how they change our perspective greatly enriches the information we get from passive vision. The movements of our bodies and our eyes affect what we see, whether in the centre of the momentary visual field or less distinctly in the periphery. From various positions in space, our retinas are presented with slantwise, enlarged or diminished images, and our visual systems process these to give us perspectives on three-dimensional bodies. We thus perceive constancies of shape and size despite a variety of changing perspectives. We recognize colour constancies under varied conditions of lighting, for example we can see a lawn as uniformly green when parts of it are in purplish shadow. Cognitive psychology studies the processing of animal and human multi-modal sensory input and bodily movement. This is the pre-conceptual foundation for all human perception, even the most conceptualized and conscious kind.

The notions of perception and action have been intertwined ever since Aristotle highlighted them as the twin marks of animal life. An infant learning hand-eye coordination will reach for a toy dangling over her cot. She can hear what direction a sound is coming from, and turn to it. Later she will crawl to retrieve an object, and will find that a square peg will not go into a round hole. We go through adult life with myriad unconceptualized egocentric perceptions: we spatially navigate to avoid bumping into things and people, we see edible things and convey them to our mouths, and we make love. Some of us develop sophisticated but still largely unconceptualized skills such as riding a bicycle, dancing the tango, balletically catching a cricket ball, improvising jazz on the piano, or quietly arranging flowers in a vase. We are hypersensitive to facial expressions, gestures, and tones of voice which we can hardly describe. We experience unidentified noises, pressures, unnamable smells and unfamiliar tastes (Proustian novelists, gourmet chefs and wine buffs may suggest words for them).

Biology and psychology are not mathematically exact sciences, and millions of years of evolution have produced very diverse results in different species. Borderline cases may be found between sensory

registration and perceptual representation, but there are plenty of clear examples on each side, and there is an important distinction to be made between them. A creature can be capable of perception by one sense modality, but not by others. The archer fish manifestly sees its insect targets, but it may have only sensory registration for touch or for the chemistry of the water. We humans perceive things by sight, hearing, and touch, but it is less clear that we have perceptual constancies of smell and taste.

## 1.2 UNCONCEPTUALIZED PERCEPTUAL REPRESENTATION DISTINGUISHED FROM PERCEPTUAL JUDGMENT

The threefold distinction between sensory discrimination, unconceptualized perception, and propositional thought has been neglected in many philosophical systems. The difference between the latter two is exemplified in a dog's chasing a rubber ball: he sees it and feels it, but he does not see or feel that it is made of rubber, for he does not have the concept of rubber. He may have learned to react with excitement to the spoken word 'ball', but that is hardly enough to say he possesses the concept if he does not discriminate balls from other small objects that he chases. We humans can catch sight of a fast-approaching object 'out of the corner of our eye', and take evasive action without recognizing it as a ball.

According to Gareth Evans' ground-breaking discussion, 'the senses yield non-conceptual information, whereas language embodies conceptual information'; 'the informational states which a subject acquires through perception are non-conceptual', whereas 'judgments based upon such states necessarily involve conceptualization'.<sup>9</sup> There was influential insight here, but it appeals to an ambiguous notion of *being in an informational state with such-and such content*, which Evans proposed to take as primitive. 'Information' *can* mean mere

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9 Evans (1983), 123note.

statistical correlation, but the word has also been used at all three of the levels I am distinguishing. The sensing of light by amoebae, and of gravity by an earthworm, are *sensory* registrations of information about the environment. A stalking lioness has accurate *perceptual* information about the movements of her prey, as we have about the motions of tennis balls. And we give and receive *conceptual* information in words or symbols about all manner of topics, from the readily perceptible to the farthest reaches of space and time, by what Evans calls 'the testimony system'. But for philosophical and scientific purposes it will be clearer if we confine talk of 'information' to *mere* statistical correlation, which applies to non-living things too. The icecap in Greenland carries information about past climate, and in a loose sense it may be said to 'represent' snowfall long ago, but it does not *perceptually* or *conceptually* represent it.

Evans' distinction between unconceptualized perception and perceptual belief has given rise to much debate. John McDowell argued that all our human perceptual states are conceptualized: in his Kantian jargon, perceptual experience 'draws into operation capacities that genuinely belong to spontaneity', and 'experiences are impressions made by the world on our senses, products of receptivity; but those impressions themselves already have conceptual content'; 'we must not suppose that receptivity makes an even notionally separable contribution to its co-operation with spontaneity'.<sup>10</sup> To be sure, a vast amount of adult perceptual experience *is* conceptualized, whenever we can *say* something what we are perceiving, and sometimes we may describe it in detail. But it is equally obvious that *some* human perceptual experience is unconceptualized in the sense that the subject cannot find words (at least in the heat of the moment) to describe what he or she manifestly perceives. Experience of unidentifiable sounds or smells or tastes should suffice to remind us of this.

Evans and McDowell both need to qualify their theorizing to cope with animal and infant perception. Evans said 'we arrive at conscious

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10 McDowell (1994), 13, 24.

perceptual experience when sensory input ... serves as the input to a *thinking, concept-applying, and reasoning system*'. That threatens to deny consciousness, perception, and experience to babies and animals, but all three of those notions are notoriously slippery, capable of multiple levels of application. We can surely agree that animals are *aware* (and why not say 'conscious(?) of threats and food, mates and offspring, they manifestly have perceptions. McDowell had reservations about the notion of non-conceptual contents of perception, which conflicted with his thesis of the conceptual nature of human receptivity. He alleged a fraudulent use of the words 'content' and 'conceptual' that would make it seem that there are rational relations between (unconceptualized) experiences and (conceptualized) judgments. In his view, a mental state that is 'blind', i.e., not available to conscious judgment, 'would have to be totally devoid of representative content?' But unconceptualized *perceptions* do have representative content.

There is more to say about the 'thinking, concept-applying, and reasoning system' that Evans and many philosophers identify as distinctive of mature human mentality. A crucial insight is that thoughts (judgments) must be *structured*: Evans dubbed this 'the generality constraint'. It applies both to Fregean 'thoughts' (propositions that can be affirmed or denied), and to the mental events of people's thinking or judging them. They must be composed of at least two elements: in the simplest case, a singular referring term and a predicate, each of which can reappear in other combinations to express different thoughts. A concept, in Kant's, Frege's and Evans' sense of the term is general, it can be predicated of different individuals. Conversely, singular reference allows different properties to be predicated of the same individual (and a two-place relation can be applied to different pairs). The generality constraint makes quantification possible, using the words 'every', 'some', 'everything', 'something', 'everybody', 'somebody'. Thoughts involving quantification are surely unique to humans.

This second distinction, between unconceptualized perception and propositional judgment may also admit of borderline cases. Does the behaviour of intelligent primates and parrots deserve the title of



‘propositional thought’, in the absence of any communication system with the grammatical structure of human languages?<sup>11</sup> There is a host of subtle empirical and conceptual issues about thought and language, which I cannot take further here.<sup>12</sup>

The concluding thoughts of Bermudez’s *Philosophy of Psychology* are consistent with the distinctions I have defended:

Personal-level cognition can involve either the complex processes and mechanisms defined over the propositional attitudes or the much simpler Darwinian modules, heuristics, and mechanisms of template-forming and pattern-recognition<sup>13</sup>

But I submit that the ‘simpler’ kind of mental functioning needs to be divided up into sensory registration and perceptual representation.

### 1.3 CONCEPTS OR PROTO-CONCEPTS?

Some theorists have used the word ‘concept’ more widely, to allow the ascription of concepts to prelinguistic infants and non-linguistic animals. According to Alva Noe, ‘to perceive you must have sensory stimulation *that you understand*’,<sup>14</sup> but he suggests that the Kantian tradition has over-intellectualized perceptual experience as *conceptual* understanding, whereas it is *sensorimotor* understanding that is basic, the capacities for perception and action being necessarily intertwined. So far, I see nothing to disagree with, except the wording about ‘understanding sensory stimulation’ rather than neural systems processing it to represent features of the environment. However, Noe proposes that we think of sensorimotor skills as themselves conceptual or ‘proto-conceptual’ skills. He suggests that perceptual experience depends on conceptual understanding ‘of a special and primitive sort’. That raises the question

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11 See Burge (2010), 537ff.

12 See the review in Bermudez (2005), Ch.10.

13 Bermudez (2005), 323.

14 Noe (2004), 183.

how we should use the term 'concept', and whether there is more than terminology at stake here.

Hilary Putnam has also proposed the term 'proto-concept' for animals that display a typical response to a certain kind of perceived stimulus, distinguishing this from full-blown concept-application in propositional judgment.<sup>15</sup> In that sense, a male lion has a proto-concept of which cubs are his offspring (he tends to kill others), but he cannot be said to have a concept of reproduction, or of genes or DNA. (How does he know which cubs are not his own? Perhaps by smell, as many animals do.) Provided that the difference from conceptualized perception is acknowledged, the term 'proto-concept' can mark a *partial* analogy with linguistically-expressible concepts. But it is just a label, it does not explain the limitations of its use. How far down the phylogenetic scale can it reach? If worms react systematically to light, do they have a proto-concept of light? (If acids react predictably to alkali, do they have a proto-concept of alkali?) There is no point in extending the term that far. A plausible lower bound is where there is *perception* of some sort: thus, we could ascribe proto-concepts to the jumping spider and the indigo buntings. But then it is the notion of perceptual representation that is doing the work, the term 'proto-concept' does not add anything.

Noe says that sensorimotor concepts are obviously the sort of skills that non-linguistic animals and infants can possess: and that seems obvious, except for his putting 'concepts' in scare quotes to signal some doubt about its application here. But does every skill qualify as a concept? Noe says 'sensorimotor skills can play much of the role that concepts have been called on to play in Kantian theories of perceptual experience' (as in McDowell), but the phrase 'much of' is vague. Can sensorimotor skills meet the generality constraint on singular perceptual judgments? In an incautious note, Noe writes: 'If I am right that perceptual experience is conceptual, then it is always the case that whenever one undergoes an experience of seeing x, one has a visual experience that can be described as having propositional (and so

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15 Putnam (1999), 159–162.

conceptual) content”.<sup>16</sup> But counter-examples I have already mentioned come to mind: one sees an unidentified something flying towards one’s head, and one ducks. Noe’s own example tells against his him: one can see an anteater without having the concept of anteater, perhaps even without applying the concept of animal (for it might appear only as a stationary grey lump in the distance). Animal perception has *representative* content, but that need not amount to *propositional* content.

Some social creatures, especially baboons and primates, are sensitive to the difference between kin groups and outsiders, and they can recognize individuals of different status within the group (and changes of status), as Noe notes. They perceive and remember the relevant differences (it is for ethologists to find out how they do it), but that does not show that they have *concepts* of kin or of social status. We may find it tempting to talk in terms of concepts here, but it is not compulsory, and may blur our understanding. There may be subtleties of behaviour in the more intelligent creatures, in experimental conditions or in captivity, that put into question whether there is a sharp boundary between the unconceptualized and the propositional, but the evidence has to be presented in detail, and the meaning of our theoretical terms should be carefully defined.

Noe announces boldly at one point that ‘concepts are practical skills’. But what about the concepts of electron, social justice, or the square root of two? He calls sensorimotor skills ‘simple concepts’, but many human concepts are far from simple, they involve much more than practical skills: consider the concepts developed in mathematics, computing, theoretical science, music, ethics, politics, and psychology itself. No doubt we could not conceive and understand *any* concepts, even the most theoretical or moral, unless we started as children at the sensorimotor stage, but that does not mean that all our concepts can be defined in those terms. Susan Carey devotes the second half of *The Origin of Concepts* to the processes of ‘Quinean bootstrapping’ by which we get to understand new concepts not definable in terms

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16 Noe (2004), 246–7 note 4.

of previously-held ones. It seems that Noe has overplayed his well-evidenced enthusiasm for the sensorimotor aspects of perception, and has underplayed the distinction between unconceptualized perception and perceptual judgment, and hence between perceptual and non-perceptual concepts.

Carey is a distinguished psychologist/cognitive scientist, and her book is full of evidence from detailed experimental work, especially on human infants, but she has a challenging general theory of conceptual development to offer. The only issue I want to take with it is a point of terminology, which I suggest is not just a matter of style or personal preference, but goes to the heart of how best to describe and understand cognitive architecture. Carey's first main thesis is that what she labels 'core cognition' is a third type of *conceptual* structure, different both from 'sensory/perceptual' systems and from theoretical conceptual knowledge. She characterizes core cognition in six ways: it has 'rich integrated conceptual content'; it is 'articulated in terms of representations that are created by innate perceptual input analysers'; these analysers continue to operate throughout life; the systems of core cognition are 'domain-specific learning devices'; some core cognition (of physical objects) is shared by non-human animals; and the formal of representation of core cognition is iconic rather than linguistic.<sup>17</sup> As examples of core cognition, she cites the indigo buntings that learn to orient by the stars, the imprinting of newly-hatched chicks to follow the first creature that looks like their mother, and human infants' innate, early-developing representations of three-dimensional material objects.

My question is not about the reality of the phenomena, but how best to categorize them: where exactly to apply the theoretically crucial terms 'representation', 'sensory', 'perceptual' and 'conceptual'. In one place Carey writes 'sensory representation may be roughly characterized as those representations that are the output of the sense organs ... those representations that maintain the point of view of the pattern of stimulation on sense-organs', and she cites as examples light on the

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17 Carey (2009), Chapter 3.

retina, or a pin prick on the hand.<sup>18</sup> But there is only *information* at the sensory surfaces, not perceptual representation, for the latter refers (when veridical) to some object or state of affairs in the external world. No animal represents its own retinal images; physiologists talk about them, and may perceive them in others but not in themselves. The case of a pin prick is different, for one can be aware of the pricking sensation (though perhaps not if one's attention is on something more urgent), but one may not know whether it is caused by a pin, a thorn, or a mosquito; and only a dermatologist could tell how many layers of skin are punctured. Carey rejects the traditional empiricist assumption that 'the primitive ideas are the output of sense-organs — they are sensory representations',<sup>19</sup> but in my account there are no such things as sensory representations, only sensory *registrations*. I suggest that Carey's theorizing would benefit from taking fully on board the distinction between sensory registration and perceptual representation.

We also need to be clear about the difference between unconceptualized perception, and what is best called *conceptual* representations proper. In her introductory chapter Carey says that 'sensory representations can, of course, be distinguished from perceptual ones', but in the first main chapter she slashes together 'the sensory/perceptual' to contrast with the conceptual. But that threatens to reduce the three mental levels to two. In her second chapter it turns out that by 'perceptual' she actually means 'conceptual', which would reduce the three to two in a different way. According to her, many infants' representations (including that of material objects, as experimentally demonstrated in the early months of life, are conceptual. For clear understanding we had better stick to our threefold distinction. Carey can keep her notion of core cognition with one amendment, replacing 'rich integrated conceptual content' by 'rich integrated *perceptual* content'.

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18 Carey (2009), 29–30.

19 Carey (2009), 27.

#### 1.4 SENSATIONS OR SENSE-DATA?

There are two strands to the notion of sensation.<sup>20</sup> One usage is for the physiological registration of physical stimuli affecting the sense-organs of a creature, such as patterns of light on the retina, frequencies of sound impacting the ear-drums, pressures or heat on the skin. These are the inputs to neural processing which, in creatures capable of perception, results in perceptual representations *not* of those proximal stimulations but of distal objects, states of affairs, or events. Sensory registration alone does not mean that the creature *feels* sensations. A tick can be said to sense warmth, since it regularly crawls towards warm regions where it may find blood to suck, but to ascribe it *sensations* of warmth or of blood would be to suggest feeling or consciousness.

The other usage of ‘sensation’ applies to our human *conscious awareness* of bodily sensations — in active or passive touch, pains, tickles and itches, pressures, impacts and muscular strains, warmth and cold, smell and taste, and the more intense sensations involved in rock-climbing, orgasms, or changing nappies. In a mindfulness therapy session, we may be invited to pay solemn attention to the pressure of our buttocks on the chair: not something we normally think about, but it shows how our attention *can* be directed to any bodily sensation.<sup>21</sup>

Most philosophers from the seventeenth until the mid-twentieth century (and some even now) have assumed that we are consciously, immediately and infallibly aware of a multitude of mental states that have been variously called ‘ideas’, ‘impressions’, ‘sensations’, ‘appearances’, ‘sense-data’, sense-impressions’, ‘percepts’, or ‘qualia’. Most discussion has focused obsessively on vision, neglecting the importance of touch, especially the *activity* of touching, without which it is doubtful that we could have any conception of the material world.

In reaction to the ‘way of ideas’ of Locke, Berkeley and Hume, Thomas Reid usefully distinguished sensations from perceptions in

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20 Burge (2010), 374 note 9.

21 Though whether that does one any good is another question.

his *Inquiry into the Human Mind*. When we smell a rose, we enjoy a temporary *sensation* caused by breathing in airborne molecules, but we thereby *perceive* the smell that we believe was already in the air, and will persist after we move our nose elsewhere. Reid generalized this distinction as follows:

The names of all smells, tastes, sounds, as well as heat and cold, have a like ambiguity in all language; but it deserves our attention that these names are but rarely, in common language, used to signify the sensations; for the most part, they signify the external qualities which are indicated by the sensations.<sup>22</sup>

Usually, we are not careful thus to distinguish our sensations from the objective qualities we feel by them, but Reid suggested that with introspective attention we can discriminate the sensations involved in any of our perceptual states.

It is natural to say that touch, smell and taste involve sensations, but less obvious for our distance senses of hearing and sight. However, in visual sensations we can attend to after-images, to the ‘rays’ one ‘sees’ if one looks at a light-bulb and screws up one’s eyes, the redness one sees through closed eyelids in sunlight, the shimmering effect of some subtly-patterned geometric paintings, or the double images of something held too near.<sup>23</sup> For aural sensations, there is the condition of tinnitus in which someone is bothered by illusory ringing in the ears, or the discomfort you feel if you are too close to an amplifier. In such cases one is more vividly aware of a state of one’s own visual or aural system than something distinct from oneself. Kant gave an example of his own:

We have many representations that do not relate to an object, for example all inner sensations. They relate to the subject. If someone speaks to me, I have a representation that relates to the object; hence this is cognition: but if he yells at me so that my ears hurt, then it is sensation and I feel my own state.<sup>24</sup>

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22 Reid (1764/2000). II.viii-x, see also VI.iv-v.

23 When a patient complained of seeing stars in her eyes, the doctor asked ‘Have you seen an optician?’, to which the patient replied ‘Only stars, doctor!’.

24 Kant, *Politz-Logik*, 24:464.

I have given examples involving the illusory, the abnormal, the painful or medical. In most situations we simply hear or see things or events in the external world without paying attention to sensations in our ears or eyes or fingers. But can we distinguish sensations in *every* case of hearing and sight? The question does not seem to be about empirical fact, and ordinary usage hardly settles it, but seems to be up for conceptual legislation. When G.E. Moore held up an envelope and invited his audience to attend to their visual experiences, he described what he and they 'saw' *not* as an envelope (though he knew perfectly well that was what he was waving around), but as 'a patch of a particular whitish colour, having a certain size, and a certain shape, a shape with rather sharp angles or corners and bounded by fairly straight lines'.<sup>25</sup> He assumed that no two people can see the same sense-data, and that each observer's data changed whenever he gave the envelope a twirl. However, it is only adult humans who (in certain non-stressful circumstances) can perform such a switch of attention from three-dimensional material objects to two-dimensional visual sense-data. Other creatures see things in perspective, from their point of view: a gazelle sees a lion approaching when its retinal images of the lion enlarge, but it has no awareness of retinal images, and certainly cannot describe them; nor can a young child do anything of the sort.

Sensations in the *physiological* sense may seem to be links in the causal chain between objects and conscious perceptions, but it is not clear that *sense-data* are causal links rather than side effects, being the topic of those unusual occasions when we report on how things *look* or *seem* to us from where we are in space and time. Such descriptions typically use in a qualified way some of our normal vocabulary for public objects and states of affairs. This is a sophisticated secondary application of our conceptual and perceptual abilities, which presupposes our concepts of how things are, and can only be developed *after* we have learnt to apply the objective concepts. It requires special artistic skills to draw in

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25 Moore (1953), 30.



perspective, and to decide what colours grass or skin *look* in light and shadow, and to represent the apparent colours in paint.

If we consider other modalities such as hearing and touch, it is less tempting to think that by a switch of attention one can always identify sense-data. Are the sense-data of touch in three-dimensional space, felt wherever our hands or other areas of skin happen to be located? In vision, how things *look* is not confined to two dimensions, nor to the present moment, for we can often see something looking spherical or heavy, or someone who looks elderly or angry. We can hear a fly buzzing around us, but we cannot describe our aural sense-data.

If we try to take seriously the notion that every individual subject's knowledge of the external world (including knowledge of other people, and of what they say, and what they *mean* by what they say) has to be built up on a foundation of judgments about his or her own sense-data, we run into the Wittgensteinian argument against the possibility of private language. How can any individual even start to make judgments about the qualities supposedly exhibited by his own sense-data, which cannot be sensed by anyone else? If there is no distinction between 'seems right' and 'is right', can there be such a thing as 'right'? How could a conscious but initially solipsist subject establish a rule-following practice that counts as making judgments with claims to truth?

It is agreed on all sides that there are physiological events in between the physical realities that we perceive and our perceptual recognitions of them; and with the progress of neuroscience, we know much more about this inner neural processing. But contrary to the long tradition of Lockean and Berkelean ideas, Humean impressions, Russellian or Moorean sense-data, or modern-day phenomenal qualia, there is no pre-conceptual, pre-linguistic, level of sense-data that is simply 'given' to our conscious attention, to form a basis for all empirical knowledge. Our sensory stimulations are crucial causes of our *unconceptualized* perceptions and our perceptual judgments, but the *propositions* about the world that we believe in the latter case are in 'the space of reasons': we can ask for evidence for or against them, and they may in turn give reason for other beliefs

### 1.5 WHAT IS THE BINDING PROBLEM?

The psychologist Anne Treisman introduced ‘the binding problem’ as follows:

To identify an object, we must specify not only its parts and properties, but also how these parts and properties are combined. What mechanisms ensure that we normally see the correct conjunctions, for example, a blue shirt as blue, with gray pants as gray, and not the reverse. .... The ‘binding problem’ arises here because different aspects of the scene are coded in specialized visual areas<sup>26</sup>

She listed seven different kinds of binding, but I will concentrate on the first, the attribution of colours and shapes to objects. In a later paper she writes:

Sensory information arrives in a variety of heterogeneous hints (shapes, colors, motions, smells and sounds) encoded in partly modular systems. Typically many objects are present at once. The result is an urgent case of what has been labelled the binding problem. We must collect the hints, bind them into the right spatial and temporal bundles, and then interpret them to specify their real world origins.<sup>27</sup>

The Kantian philosopher Lucy Allais has illustrated the binding problem like this:

... the visual system processes colour and shape in different streams, and needs some way of organising (binding together), for example, sensations indicating red and sensations indicating round, as both belonging to a round red tomato, as opposed to just informing the subject that redness is present and roundness is present.<sup>28</sup>

But this seems incautious in several ways. The word ‘sensation’ usually means subjective states of which the subject is (or can readily become) consciously aware, whereas the psychologists are theorizing

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26 Treisman (1996), 171.

27 Treisman (2003), 97.

28 Allais (2017), 25.

about patterns of neuronal activation, of which the normal subject has no knowledge. This point can be accommodated by replacing talk of ‘sensations’ with brain processes. And of course, the neural processes, when ‘bound’, do not belong to the tomato, but result in a perceptual representation of a tomato. A more substantial worry (which applies to Treisman too) is whether ‘shape’ means two- or *three*-dimensional shape: in the example, does ‘round’ mean circular or spherical? There are subtle issues about how the visual system enables us to judge the shapes of three-dimensional objects on the basis of the input of light. Talk of ‘streams of information’ about shapes is in danger of slurring over these important issues. If a neural stream ‘indicates’ a three-dimensional shape, it seems already well on the way to representing a material object.

In a recent survey of the psychological literature Thomas Burwick defines binding as: ‘the grouping of parts or features of an object into complete objects, making each object as a whole, a unity (‘one’) in the perceiving mind’.<sup>29</sup> He distinguishes two different problems: ‘the scientific challenge of identifying mechanisms that may achieve binding’ and ‘the difficulty that mind and brain may have with binding in certain situations’. Talk of the *mind’s* difficulty suggests the classic epistemological question of how a perceiver can know what objects he is confronted with, which is a philosophical question of evidence, of what rational justification there is for such claims. But talk of the *brain’s* difficulty suggests that in certain situations (illusions, stress, aging or lesion) the mechanisms do not perform their usual functions. The latter is one aspect of the scientific challenge, for failures can help psychological science identify what the mechanisms are, and knowledge of the mechanisms may explain when they break down.

I am not going to wade into the details of the proposed solutions to the binding problem, which involve some fairly esoteric psychological theorizing,<sup>30</sup> for I want to question the formulations of the problem. One

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29 Burwick (2014), 305.

30 Much of the evidence comes from responses to specially contrived two-dimensional displays rather than three-dimensional objects in the normal world.

assumption is that we — or rather, some processes in our brains — *first* represent or ‘encode’ shapes, colours, and parts, and *then* attribute these (some of them, at least) to objects. The temporal intervals are very small, of course, but the thought is that the neural coding of features and parts is *causally* antecedent to the awareness of physical objects. However, at the level of conscious verbal recognition, the presence of a man may be acknowledged and remembered while the colour of his trousers, or the posture he adopted, or the fact that he was missing a finger, may not. Psychologists will reply that there must have been some neural processing by which the perceptual recognition of a man was arrived at from the sensory input. That seems impossible to deny, but how do we know what form that neural processing takes — why should we assume that it always proceeds from representations of features and parts to representation of objects? Can there not be neural processes that respond directly to the presentation of physical objects of kinds that are of interest to us, such as human beings, animals, toys and tools? How is it that we can recognize individual people by their faces, while being hard put to it to describe in words what features we go by? Studies of infant perception<sup>31</sup> strongly suggest that we have some innate conception of material objects that is manifest in infants before they learn words for colour and shapes, or body parts.<sup>32</sup>

There is a second set of conceptual questions about what it means for neural configurations or processes to *represent*, *encode*, or *carry information about* features in the external world such as colours or shapes, sounds, pressures or textures, tastes or smells. How, for example, can something at the neural level ‘encode’ the presence of redness or rectangularity? A spoken report or written statement conveys information in a literal sense, but nothing in our brains displays words like ‘red’ or ‘rectangle’: neurons do not speak or write English, or any language. In another sense, information be conveyed by the use in certain contexts of

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31 See Carey (2009), Chapter 3.

32 Were there insights in Gestalt psychology, and Merleau-Ponty’s philosophy of perception?

non-verbal symbols, but neurons do not display samples of redness or rectangularity, the sound of A-440, the pressure of someone's grasp, the taste of pineapple, or the smell of ammonia. What then is meant by saying that neuronal configurations or processes can 'encode' such features? The 'codes' have not been devised by human intelligence, they cannot be decrypted into verbal messages: there is no Enigma machine that works on neurons. Surely all that can be meant by such 'encoding' is that certain neural configurations carry information about perceptible features in the most minimal sense, namely *reliable statistical correlation*. This is the sense in which tree rings carry information about climatic conditions in the past: they do not assert any propositions, it is only the biologists who do that, by inference from present effects to past causes.

There are a host of empirical questions about what reliable correlations there may be between perceptible features and neuronal events in the brains of perceivers.<sup>33</sup> Are there distinct neural processes correlating with the subtle differences between scarlet, crimson, brick red, magenta or pink, or between the timbres of a violin, a flute, or oboe playing the same note? Some of us learn to make such fine distinctions (there are cultural elements involved), and that must surely make *some* differences in our brains, but what they are may be very elusive to science. Neuroscientists cannot legislate *a priori*. There are many features in the world that we learn to discriminate that are not degrees on a scale, for example, shapes such as rectangle, circle, cube, sphere, feline, equine, feminine, hexagon, dodecahedron, oak leaf, the constellation of Orion; or in sound, the opening of Beethoven's Fifth Symphony or the voice of Elvis Presley. Are we to expect neural correlates whenever we perceive those shapes and sounds, and neural changes when people acquire concepts for them? What correlations (reliable, idiosyncratic, changeable) are to be found is a thoroughly empirical matter.

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33 Could they vary from one person to another, or at different stages of life? In naïve supposition, oscillations in the visual system *might* correspond to wavelengths of incoming light, but the apparatus of rods and cones in the retina does not work in any such simple way — see Hardin (1988), Chapter I.

The usual formulations of the binding problem seem to assume too much about the nature of the problem, and about the form of the answer in terms of ‘mechanisms’.<sup>34</sup> Treisman asserts that the sensory information is coded ‘in *specialized* visual areas’, ‘in *partly* modular systems’. This implies, firstly, that there is little or no cross-modal influence between the early inputs from vision and touch, and secondly, that within vision, colours and shapes are encoded independently of each other, before binding takes place. But that word ‘partly’ allows the empirical possibility of *some* cross-over between neural coding streams. Could our sense of balance and muscular effort influence how we see the world around us, as discussed by Samuel Todes?<sup>35</sup> Talk of ‘mechanisms’ suggests simple causal connections between one event and another, like a key turning a lock, or a finger press adding a single letter to a computer file, but the human brain is said to be the most complex object in the universe. With computers, a single key press can have very different results depending on what state the machine is presently in, which depends in turn on its previous programming. The firing of a single neuron in the brain depends on the states of many others, and (unlike computers) on the person’s age, health, stress, emotion, or inebriation.<sup>36</sup> There is much that brain science does not yet understand, and there is no prospect of *complete* knowledge, such as we may have of the mechanisms of a car. Science is never omniscience.

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34 In his concluding remarks Burwick says ‘it remains an open problem to understand ... how our brains combine the color blobs on the palette of the painter into the world of objects that we live in’ (2014), 312. I guess that was only a rhetorical flourish at the end of a very technical review, but it suggests a subliminal influence of the sense-data tradition in philosophy.

35 See Todes (2001), 123ff, 140ff.

36 The intricate analysis of causality by Paul and Hall (2013) treats imagined configurations of up to 15 neurons, but the brain contains millions of them.

## CHAPTER TWO

### INTERPRETING KANT ON PERCEPTION

In the light of the psychology and philosophy of mind outlined in Chapter 1, let us begin to examine Kant on perception. I will submit that we can see the distinction between unconceptualized and conceptualized perception peeping out of some of his writing, though he does not give it headline treatment. His main focus was the kind of perception<sup>37</sup> that involves applying concepts, especially the categories, the set of twelve *a priori* concepts he identified as necessary for our distinctively human experience. But there are places where he seems to recognize the possibility of *unconceptualized* perception. One way to allow for this would be to split the faculty of sensibility into sensory registration and non-conceptual perceptual representation. Another way might be to split the faculty of understanding into concepts and proto-concepts, but I have argued in 1.5 that this would not be helpful. In this chapter I approach these issues via some earlier interpretations.

#### 2.1 PHILOSOPHY OR COGNITIVE SCIENCE?

There is a methodological issue to confront here first. On the very first page of the main text of the *Critique* Kant declared:

There is no doubt whatever that all our cognition begins with experience; for how else should the cognitive faculty be awakened into exercise if not through objects that stimulate the senses and in part themselves produce representations [*Vorstellungen*], in part bring the activity of our

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37 I must emphasize again that I am using the word ‘perception’ in its modern sense, the perceptual representation of features in the world external to the subject, *not* Kant’s ‘*Wahrnehmung*’ or ‘*perceptio*’, which he applied at A320/B376 to all conscious mental states, including sensations.

understanding into motion to compare these, to connect or separate them, and thus to work up the raw material [*roher Stoff*] of sensible impressions [*sinnliche Eindrücke*] into a cognition [*Erkenntnis*] of objects that is called experience [*Erfahrung*]. (B1)

There are two different uses of ‘experience’ and ‘cognition’ here: as what our minds begin with, and as the result of the ‘working up’. There is also a suggestion of two stages of mental processing: the initial production of ‘representations’, and the subsequent ‘comparison, connecting or separating’ of them. We can already see a foreshadowing of our threefold story of sensory registration, unconceptualized perception, and perceptual judgment. Kant’s fundamental distinction is between two faculties: sensibility (*Sinnlichkeit*) to do with ‘intuitions’, and understanding (*Verstand*) to do with concepts. But when he gets into the thick (and it is very thick!) of his analysis of cognition he appeals to a third ‘faculty’, the imagination (*Einbildungskraft*), which his interpreters have struggled to understand ever since. He attributes ‘synthesis’ (his more technical term for ‘working up’) to the imagination.

But are these claims about mental processes to be understood as empirical psychology, or *a priori* philosophy? One expects the latter, given the overall tenor of his thought, but in the Preface to the first edition Kant expressed some hesitation about the status of his theorizing:

This inquiry, which goes rather deep, has two sides. One side refers to the objects of the pure understanding, and is supposed to demonstrate and make comprehensible the objective validity of its concepts *a priori*; thus it essentially belongs to my ends. The other side deals with the pure understanding itself, concerning its possibility and the powers of cognition on which it itself rests; thus it considers itself in a subjective relation, and although this exposition is of great importance in respect of my chief end, it does not belong essentially to it; because the chief question always remains: ‘What and how much can understanding and reason cognize free of all experience?’ and not ‘How is the *faculty of thinking* itself possible?’ (Avi-vii)

He commented that the latter question is ‘something like the search for the cause of a given effect’, and might seem to be a matter of opinion, therefore perhaps empirical? He added that he would ‘elsewhere take



the opportunity to show this is not how matters stand', but it is not clear where he does this, so we can only assess the main trend of his work.

In the closing pages of the *Critique* Kant declared that 'empirical psychology must be entirely banned from metaphysics', but he conceded a place for it 'as a long-accepted foreigner, to whom one grants refuge for a while until it can establish its own domicile in a complete anthropology' (A848–9/B876–7). No doubt that reflected the primitive state of psychology in 1781,<sup>38</sup> but it has since progressed by leaps and bounds, and has firmly established its proper 'domicile' among the natural sciences. Much of it now goes under the banner of cognitive science.

Some of Kant's theorizing sounds like armchair introspective psychology in the tradition of Locke, Hume and Tetens, but as we will see in 3.1, he recognized that much mental activity goes on below the level of consciousness, so the question arises how to justify such claims. Valiant efforts have been made by Patricia Kitcher, Andrew Brook, and Beatrice Longuenesse to explain and defend Kant's apparent straying from austere *a priori* argument into matters of empirical psychology or cognitive science.<sup>39</sup> A central issue is the ambiguity of his phrase 'searching for the cause of a given effect', which can mean either *a priori* conceptual analysis of the constituent conditions for a certain kind of mental functioning, or empirical research into the systems that enable it (in computer terms, the difference between software and hardware). This programmatic distinction was influentially drawn in the work of the psychologist David Marr.<sup>40</sup>

However, the intellectual labour cannot always be so neatly divided up between philosophers reflecting in their armchairs and scientists with their sleeves rolled up in labs. Psychologists deal in *theories*

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38 Kant was influenced by the psychological work of Tetens; see Allison (2015) Appendix to Chapter 3, for detailed discussion.

39 Kitcher (1990) and Brook (1994) especially in their first chapters; see Longuenesse (1998), 398.

40 Marr (1982).

and *theoretical concepts* about perception, action, and emotion. No scientist sets out simply to observe things with a blank mind, or to experiment on them aimlessly; their business is to propose hypotheses and systematically test them.<sup>41</sup> But such theoretical claims have to be formulated, explained, critically discussed and refined, and sometimes abandoned. There is creative and critical conceptual work to be done, to which philosophers can contribute.<sup>42</sup>

The other way round, philosophers of mind are ill-advised to ignore relevant the findings of empirical science. Our definitions of natural kinds have changed as a result of the establishment of scientific theories: familiar examples are ‘Water is H<sub>2</sub>O’, ‘Gold is the element with atomic number 79’, and ‘Genes are written in the four-letter language of the bases in the DNA molecule’. Closer to our topic is the biological and psychological work on the natural kind ‘perception’ in animals and human, reviewed by Burge. To ask whether this is philosophy or science is not helpful: it manifestly involves both, and there is no need for a demarcation dispute. There is a place, of course, for scholarly work that concentrates on interpreting the texts that Kant bequeathed us at the end of the eighteenth century. But my interest is in asking how Kant’s theorizing both contributes to contemporary philosophy *and* cognitive science, and needs to be re-evaluated in the light of it.

## 2.2 INTUITIONISM

There is no way I can survey all the enormous literature on Kant on perception, so I am going to focus on two contrasting interpretations that differ sharply on what he meant by ‘the raw material of sensible impressions? What exactly is the *roher Stoff*’ that he talks of at B1?

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41 As Kant perceptively pointed out in the B Preface to the *Critique*: ‘Reason ... must approach nature ... like an appointed judge who compels witnesses to answer the questions he puts to them’ (Bxiii).

42 My critique of Noe’s and Carey’s theorizing about proto-concepts in 1.5 is one modest example.

Many philosophers have assumed that the answer is obvious, since we seem to be introspectively aware of items that have been variously called ‘sense-impressions’, ‘sensations’, ‘sense-data’ or ‘qualia’. Kant’s language roams around a bewildering (baroque?) panoply of terminology: ‘manifold in intuition’ (A97, 99), ‘representations, as modifications of the mind in intuition’ (A97), ‘the succession of impressions on one another’ (A99), ‘sense represents the appearances empirically in perception’ (A115), ‘the manifold of sensible representation (intuition)’ (A129, B129), ‘representations given in intuition’ (B133–4), ‘the manifold of a given intuition’ (B137). The slipperiness of this terminology has generated continuing confusion, and an interpretative industry.<sup>43</sup> Kant was a genius, sensitive to many different philosophical issues and views, engaged in lifelong struggles to reconcile them. It is not surprising if he did not arrive at an unambiguous view.

At B1 Kant describes the initial sensory stimulations as ‘representations’, which suggests they are available to consciousness, but his very broad use of ‘representation’ at the head of his classification at A320/B376 includes non-conscious states. He thus made available a distinction between *sensations* as conscious mental states, and *sense-impressions* which do not reach consciousness. His first mention of sensation as ‘the effect of an object on the capacity for representation, insofar as we are affected by it’ (A19–20/B33–4) leaves it open for us to understand the relevant effects as unconscious and physiological. But at A320/B376–7 he defined sensations as those *conscious* representations (‘perceptions’ in *his* sense) that involve only a state of the subject, as opposed to ‘objective perceptions’ or cognition (perceptions in the modern sense). So in Kant-speak, sensations are (paradoxically) conscious ‘representations’ that *don’t represent* anything in the external world (A166/B207–8).

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43 I fear there is truth in the old jibe that Kant was technical without being precise. Searching for a consistent and philosophically plausible interpretation is difficult, but instructive even if no perfect solution is found.

Kant famously said that intuitions without concepts are ‘blind’, which provokes the question how we can know anything about them. Gordon Nagel wrote ‘it is bafflingly difficult to say anything whatever about what is given in sense’, yet he overcame his bafflement sufficiently to declare that ‘what is given is always sensation in some spatiotemporal pattern’.<sup>44</sup> Many other readers have taken it as obvious that our sensory data are ordered successively in time and arrayed in space. Henry Allison says:

Receptivity ... presents the data in a certain fixed manner, which is independent of the conceptual activity of the understanding. Thus, on this view, the understanding (or imagination) does not produce a spatiotemporal order through its activity but merely uncovers or brings to consciousness one that is given independently of it, though not, as we shall see, independently of the nature of human sensibility.<sup>45</sup>

And more recently:

For Kant the manifold is given through outer sense *as spatial*, apart from any activity of the mind ... and the same applies, *mutatis mutandis*, with respect to time and the manifold of inner sense.<sup>46</sup>

Lorne Falkenstein has presented a comprehensive account based on this view in *Kant's Intuitionism*, his book-length commentary on the Transcendental Aesthetic.<sup>47</sup> I am going to question his basic assumption, and I offer a bold suggestion: that we try to avoid using Kant's ubiquitous but ambiguous term ‘intuition’ (*Anschauung*). It is subject to the act/object distinction between mental events of intuiting

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44 Nagel (1983), 18, 40.

45 Allison (2004), 114, 130.

46 Allison (2015), 158 (see also p.55). Towards the end of that more recent book Allison distinguishes two conceptions: ‘one that pertains to space and times themselves as “given”, i.e., as forms of sensibility, and one that pertains to the representation of their unity by the cognizing subject’ (2015), 412. The former still seems to imply that spatial and temporal relations are given to our consciousness prior to cognition.

47 Falkenstein (1995) has over 400 pages of commentary on some 40 pages of text. In Part I he ambitiously proposes ‘to present a complete and integrated picture of the working of the cognitive faculties, as envisioned by Kant’ (xvi).

or the items thereby intuited, and the latter can be subjective sensations, or public objects and events. Does ‘intuiting’ mean sensory registration, unconceptualized perception, or perceptual judgment, or is it ambiguous between the three?

Falkenstein works with a cognitive model of the mind as an information-processing device that receives sense-data as input, processes them in certain ways, and delivers as output propositional attitudes.<sup>48</sup> His fundamental and crucial assumption is that:

For Kant, the raw data immediately received by the cognitive system through sensory experience is structurally complex; it consists of an array of matters disposed alongside one another in space and occurring successively in time.<sup>49</sup>

Because our sense-data *seem* to have this structure antecedent to all processing, our cognitive output will be affected by it: that is why Falkenstein calls Kant an ‘intuitionist’. But what sort of things are these ‘data’? What is really ‘given’ to our senses, as input to our mental processes?

In some of his writing Falkenstein seems to be in thrall to radical empiricist sense-data philosophy, in which the data are conceived of as immediately, infallibly, and privately given to each individual consciousness, as changing in time and therefore standing in temporal relations, and as standing in spatial relations in the two-dimensional space of the visual field. It is not often asked how this can be applied to senses other than vision, in particular the three dimensions of the data of touch. The frontispiece to Falkenstein’s book rather gives his game away even before the text starts, for it represents someone making a drawing of how a scene looks to him, using an intervening two-dimensional grid to get the perspective right.<sup>50</sup>

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48 Falkenstein (1995), 6, 10, 24, 59–61, 67.

49 Falkenstein (1995), 4–5, 9, 11, 21.

50 To add time, think of a video (a two-dimensional film) of changing shapes.

It has been very tempting to many readers to understand Kant within the sense-data tradition, especially in the Transcendental Aesthetic. He identifies the *form* of appearance as ‘that within which the sensations can alone be ordered and placed in a certain form’, which he says must lie ready in the mind *a priori*’ (A20/B34). He calls this pure form of sensibility ‘pure intuition’: and he ‘can say *a priori* that all outer appearances are in space ... and all appearances in general, i.e., all objects of the senses, are in time’ (A34/B51). But there is a clue that something else is at stake when Kant writes that ‘in order for certain sensations to be related to something outside me (i.e., to something in another place in space from that in which I find myself)... the representation of space must already be their ground’ (A23/B38). Something ‘outside me’, in another place from my body, must be represented as in public three-dimensional space. Here a different reading is suggested, in which ‘appearances’ (defined as the ‘undetermined objects of empirical intuition’ at A20/B34) include publicly perceptible objects and events situated in three-dimensional space.<sup>51</sup>

Falkenstein veers away from the sense-data interpretation when says that our raw data should be understood as ‘physiological stimuli occurring on the surface of our sense-organs, rather than as ideas had by the mind’.<sup>52</sup> But how can this fit with his assumption that minds like ours have to be *conscious* of all the data they receive? If we stick to the physiological account, the stimuli on our sense-organs are events in the material world. They quite literally occur in time, so they are simultaneous or successive; and are located in certain small regions of three-dimensional space — in our eyes, ears, skin, nose, and mouth. But unless we are doing physiology, we are not conscious of these physical stimuli. Nevertheless, Falkenstein is convinced there is a basic *conscious* level at which sensory data are ‘presented’ to our minds as standing in privately recognizable spatial and temporal relations. Processes of

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51 I will discuss Kant on space in Chapter 5.

52 Falkenstein (1995), 1–12, 119–132, 140, 359, 376 note 62.

synthesis, guided by the categories, 'are supposed to generate a higher-order objective space and time from the given, subjective one'.

Falkenstein is treading an unstable and controversial line here. He admits that sensory experiences without concepts are 'blind' and cannot be the subject of knowledge claims, but elsewhere<sup>53</sup> he talks of our minds making a series of *judgments*, starting with the application of concepts to our sensory data:

Sense intuition is truly manifold. It consists of a multiplicity of matters played out over space and time, so that at each discriminable point within the sensory field, there is a distinct sensory datum to be identified. Once this fact is appreciated, virtually the whole of the Transcendental Analytic can be seen as the working out of a single, basic project: explaining how, out of this physiological array of points of information, a unity of thought can arise.

... if anything is to be known on the basis of the sort of sensory experience I have described, the first order of business must be to bring all the spatially and temporally disparate data together in the thought of a single consciousness.<sup>54</sup>

Unification in one consciousness is achieved, Falkenstein suggests, by *four* stages of judgment:

Judging that all the various data points are given in certain spatial and temporal relationships to one another ... judging that various data points are qualitatively similar or dissimilar, and noting that adjacent qualitatively similar data points make up homogenous patches of various shapes in space and time ... judging that various homogenous patches refer to particular objects, of which they are aspects of appearances ... judging that all the various objects of experience belong together in a single world governed by universal laws.<sup>55</sup>

This is reminiscent of the classic programmes for 'constructing the external world' out of sense-data, sketched in Hume's theory of the

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53 In his Afterword, where he sketches how he thinks Kant's theory of synthesis works in the Transcendental Analytic.

54 Falkenstein (1995), 360.

55 Falkenstein (1995), 360–1.

imagination and elaborated by Russell, Carnap, Ayer and Chalmers. As Falkenstein describes his four-stage process, there is conscious judgment going on at every stage, beginning with propositions about the subject's sense-data. He makes it sound like an astronomer gazing at images on her computer screen and trying to infer what objects they represent in the cosmos. But images on screens are public phenomena, whereas Falkenstein's main programme (apart from his reference to the *physiological* stimulations) is to move from subjective private sense-data to the material world. At the first stage he jumps straight to thought and consciousness, whereas my discussion in Chapter 1 suggests there is non-conceptual unconscious processing in between.

Some of Kant terminology invites interpretation in terms of sense-data, but I think he had other thoughts pointing (though somewhat obscurely) in a more promising direction. I suggest we cut Falkenstein's knot by acknowledging that of course there are physiological stimuli, and we are not normally aware of them, though we can sometimes describe how things *seem* rather than how we believe they are (see 1.5). As a result of unconscious neural processing of the physical stimulations we become perceptually aware of the world, very early in life, in unconceptualized ways that we share with many other creatures. With further levels of processing involving concept-acquisition we begin to make judgments about perceptible states of affairs, and we fit them into our developing picture of a single material world.<sup>56</sup> But that happens at the conceptual level, towards the *end* of the story, our senses do not make *judgments*, nor do our neural processes, or our mental modules: it is the whole conceptually-equipped person who judges.

### 2.3 PROCESSING BY 'THE IMAGINATION'

There is a very different interpretation that fits better with the account of perception outlined in Chapter 1. Robert Pippin wrote that for Kant:

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56 See Stevenson (2000), reprinted in Stevenson (2011).



sensory awareness is not in any sense a mode of (even very unclear) knowledge ... it is only the mere 'material' of experience, the sensory manifold is 'undifferentiated and indeterminate, formless', yet sensations 'decisively direct our empirical knowledge'.<sup>57</sup>

However, that last-quoted phrase provokes the question is this 'directing' or 'guiding' a matter of *causes* or *reasons*, natural facts or normative justifications? It surely has to be the former, for how can something indeterminate, not a topic of judgment, function as justification for a knowledge-claim?

In his book Kant's *Model of the Mind*<sup>58</sup> Wayne Waxman boldly declared that according to Kant our truly raw, unprocessed sensory data are neither successive in time nor arranged in space. On the contrary, what *seem* to introspection to be obviously 'given' relations of succession and juxtaposition in our sensory experience are products of our unconscious processes that Kant attributes to 'the imagination'.<sup>59</sup> Waxman thus poses a radical challenge to the 'intuitionist' interpretation:

All spatial and temporal relations must then be supposed to exist only in and through imagination, and in no way to characterize sensations, there can be no 'flux' of representations in inner sense, and not even 'colour patches' can be regarded as genuine data.<sup>60</sup>

The actual data of sense are not merely undreamed of in all previous philosophies, but in the most literal sense lie beyond the threshold of their consciousness. The contribution of the senses (i.e. synopsis) is something less than a consciousness: sensations are not representation but the material therefor [*sic*]. They are a raw, utterly formless, representational primary matter.<sup>61</sup>

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57 Pippin (1982), 27–30.

58 Waxman (1991), a substantial book which has been curiously under-discussed in Kantian literature, perhaps because many scholars find its basic thesis unbelievable.

59 This fits with Kant's dictum that in inner sense we are aware of ourselves only as we *appear* to ourselves, not as we are (B152–6)

60 Waxman (1991), 14.

61 Waxman (1991), 65.

Acts of the mind may altogether escape our attention, even be undetectable *empirically*, yet nonetheless be essential to the perception even at the most primitive, nonintellectual levels.<sup>62</sup>

To attribute our awareness of space and time to the workings of the imagination is *not* to say that spatial and temporal facts are ‘imaginary’ in the ordinary sense of the word: they remain ‘empirically real’ (as Kant said): there are innumerable empirical facts of geography, history, and astronomy. To be sure, in ‘inner sense’ we are aware of what *appear* to be temporal successions in our sensations (the pain started *after* I felt the impact), and spatial relations between my visual data (I have a green after image to the *left* of a red one). But Waxman’s argument is that all awareness even of ‘subjective’ time or space is the result of unconscious mental processing, it is ‘transcendentally ideal’ in the sense of being constructed by our mental ‘imagination’. That is the new interpretation of Kant’s transcendental idealism advertised in the subtitle of Waxman’s book.

This is to assign some heavy theoretical lifting to the faculty of ‘imagination’, but it does not, as yet, offer much explanation of what that means. The English word ‘imagination’ had already been used by Hume for the processes by which fleeting impressions lead to judgments about persisting objects,<sup>63</sup> but Kant put his own slant on the imagination as responsible for *synthesis*, his more technical-sounding term for the ‘working up’ he mentioned at B1:

Synthesis in general, is ... the mere effect of the imagination, a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious. Yet to bring this synthesis to *concepts* is a function that pertains to the understanding, and by means of which it first provides cognition in the proper sense. (A78/B103).

No psychologist has yet thought that the imagination is a necessary ingredient of perception itself. This is so partly because this faculty has been limited to reproduction, and partly because it has been believed that the senses do not merely afford us impressions but also put them together,

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62 Waxman (1991), 15.

63 See Hume’s *Treatise* (1739/1888), I.iv.i-ii, and Stevenson (2003).

and produce images of objects, for which without doubt something more than the receptivity of impression is required, namely a function of the synthesis of them. (A120 note)<sup>64</sup>

Kant does not give the imagination the headline treatment he accords to sensibility and understanding in structuring the *Critique*, it suddenly appears in the middle of the Analytic of Concepts and dances mysteriously between the two main players, first partnering one, then the other. It is tempting to see this as a glimpse of the tripartite theory of mind offered in Chapter 1. However, I respectfully suggest that Kant had not fully thought through what to say about imagination and synthesis, as is shown by the terminological fluidity that readers have had to struggle with ever since. That leaves room for his interpreters to be creative. In that spirit Waxman offers some confident distinctions:

[There are] two quite separate and distinct problematics in the Analytic: the possibility of *sense perception simply as such* ... and the possibility of *experience*. The former concerns how imagination, on the basis of an atemporal, aspatial given of sense, makes *consciousness* (perception, appearance) possible; the latter centers on the possibility of *self-consciousness* ...<sup>65</sup>

That fits with our threefold story: ‘imagination’ can here be understood as the unconscious processing that goes from sensory stimuli to the level of consciousness that consists in non-conceptual perception of objects; then a *further* kind of processing (to be attributed to something other than the imagination?) is needed for concept-application. Another place Waxman makes the distinction as follows:

There are in fact two quite distinct senses of understanding and spontaneity operative in Kant’s philosophy: the *discursive* (conceptual, judgmental) sort and the *nondiscursive*.

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64 Rather confusingly, Kant appeals to an *ordinary* meanings of the word ‘imagination’ in the middle of the B Transcendental Deduction: ‘Imagination is the faculty for representing an object even without its presence in intuition’ (B151). There is a substantial historical entry on *Imagination* in Caygill (1995). I distinguished twelve different conceptions in Stevenson (2003).

65 Waxman (1991), 18–19.

... a place is scrupulously kept open for the preconceptual, *nondiscursive* variety Kant associated with the imagination.<sup>66</sup>

We have here the same two stages of processing, with the truly raw inputs of sense being first worked on by the imagination (here called ‘the nondiscursive *understanding*’) to produce unconceptualized perceptions, which can then be worked on by the *discursive* understanding to produce perceptual judgments. It is confusing to talk of two sorts of *understanding*, but I see why Waxman talks of two sorts of *spontaneity*, for that term can be applied to any level of mental *activity*, whether conscious or unconscious.<sup>67</sup> I will make further use of Waxman’s interpretation in 3.4.

## 2.4 ANIMALS AND OBJECTIVITY

In this twenty-first century there has been considerable debate amongst Kant interpreters about whether he was committed to the reality of unconceptualized perception in humans, and in other animals. I will not review all the intricate twists and turns of that debate,<sup>68</sup> but I hope to confirm in the next chapter how well non-conceptual perception fits into a reconstructed Kantian philosophy of mind.

Several papers in the recent collection *Kant and Animals*<sup>69</sup> confirm that there is room in his philosophy for unconceptualized perception. But talk of non-human animals as a single broad class ignores the distinction between sensory registration and unconceptualized perception that we have learnt from Burge in Chapter 1.<sup>70</sup> There is a fairly clear lower bound on any kind of perception as requiring constancies of represented

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66 Waxman (1991), 33–4.

67 I distinguished five kinds of spontaneity at the end of Stevenson (2004), reprinted in Stevenson (2011).

68 Scholars who defend the non-conceptual strand in Kant’s thought include Hanna (2005) and (2006), Allais (2009) and (2015), and McClear (2015). Conceptualist interpreters include Ginsborg (2008) and Griffith (2012).

69 Callanan and Allais (2020).

70 There may be more subtle differences to be found in biology

items from various perspectives; and many creatures fall below that line, such as mollusc, worms, ticks, mosquitos, and bacteria. The main point of discussion is whether mammals, reptiles, birds, and some fish and spiders count as perceiving things in their environment.

John Callanen provides some interesting historical background about animals in the thought of Descartes, Bayle, Locke and Rousseau. He concludes that Kant credited animals with sensation and imagination, but without awareness, however Callanen is not clear about what counts as awareness or ‘proto-self-awareness’ (as we saw with concepts, the suffix ‘proto’ is a label, not an explanation). Colin McLearn and Sacha Golob pose questions about objectivity in animal perception.

McClear endorses Kant’s distinction between sensory acquaintance (*Kenntnis*) and conscious cognition (*Erkenntnis*),<sup>71</sup> glossing it as the difference between being able to discriminate by behavioural reaction and being able to articulate (in words) the ground or basis for such discrimination, i.e. to give a reason for it. He also offers a distinction between ‘objective’ and ‘objectual’ perception, suggesting that animal intuitions are minimally objective in that they present spatial particulars rather than raw sensations, but not objectual in that they do not involve the categories of substance and causation, only principles of spatial continuity and cohesion.<sup>72</sup> Of course, animals do not use words for objects or causes, but some of them can recognize particular individuals (some birds mate for life), temporary properties of individuals (when a female is in heat), and causal tendencies (the lioness sees a buffalo as a threat to her cubs). That is surely to perceive more than spatial continuity and cohesion.

Golob distinguishes three questions about animal perception: Do they have empirical intuitions of spatiotemporal particulars? Are their experiences intentional states? Are their experiences of, or about, objects? He says that non-conceptualism poses no problems to answering yes to all three. But he goes on to make further distinctions within ‘objects’

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71 *Jasche Logik*, 9:64–5

72 McClear (2020), 45–65.

and ‘objectivity’. Objectivity1 involves representation of objects as possessing properties that stand in inferential relations (like McLear’s articulation of grounds). Objectivity2 involves a distinction between successive perceptions and the perception of succession (famously made by Kant in the Second Analogy), or some such ‘privileged class of spatiotemporal relations’ (left rather vague). Objectivity3 involves a distinction between spatiotemporal particulars and the mental states of the perceiver.<sup>73</sup> Golob concludes that animal perception passes only the third of these tests.

There are fine academic distinctions here, but nothing, I think, that requires any substantial revision of our threefold distinction between sensory registration, unconceptualized perception, and perceptual judgment.

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73 Golob (2020), 76–84.

## CHAPTER THREE

# RECONSTRUCTING KANT ON PERCEPTION

### 3.1 BLIND INTUITIONS

One of Kant's most-quoted lines is 'intuitions without concepts are blind', which may seem to rule out unconceptualized perceptions straight away. But that is only a slogan, we need to read it in the context of this important passage:

Our cognition arises from two fundamental sources in the mind, the first of which is the reception of representations (the receptivity of impressions), the second the faculty for cognizing an object by means of these representations (spontaneity of concepts); through the first an object is *given* to us; through the latter it is *thought* in relation to that representation ... Without sensibility no object would be given to us, and without understanding none would be thought. Thoughts without content are empty, intuitions without concepts are blind. (A50–1/B74–5)

This does not say that intuitions cannot exist without concepts, only that they would be 'blind'; nor does it say that thoughts cannot lack 'content', only that they would be 'empty'. A thought in Kant's sense (and Frege's) is a proposition — a judgable, believable, assertable content — so a thought without *propositional* content would be a contradiction in terms. But perhaps Kant was thinking of *perceptual* content here. We obviously have thoughts without *present* perceptual content, e.g., 'I met Maria yesterday', 'I'll see her tomorrow', 'Caesar crossed the Rubicon', 'The earth revolves around the sun', 'Electrons have negative charge'. But we could not entertain such thoughts if we were not embodied creatures who can make present-tense judgments about what we perceive, and that implies an *indirect* dependence of all our thought on sensibility.

I am more concerned here with the second claim, that intuitions without concepts are blind. In the Transcendental Deduction Kant set out to prove that the categories, the *a priori* concepts, are necessary to

all experience. Yet in his introduction to both editions of that notoriously difficult argument he declared:

The categories of the understanding ... do *not* represent to us the conditions under which objects are given in intuition at all, hence objects can indeed appear to us *without* necessarily having to be related to functions of the understanding, and therefore without the understanding containing their *a priori* conditions ... appearances can certainly be given in intuition without functions of the understanding. (A89–90/B122 with my emphases; see also A111, A124, B132).

Many readers have interpreted these remarks as inconsistent with the conclusion of the Deduction, or as merely voicing a seeming possibility that Kant intends to rule out. But when we recognize the reality of unconceptualized perception, these texts can be accepted at face value.<sup>74</sup> Humans (and many other animals) can perceive and react to objects and events in their immediate environment without applying any concepts, at least not there and then. Kant introduced his notion of intuition (*Anschauung*) in the very first sentences of the Transcendental Aesthetic:

In whatever way and through whatever means a cognition may relate to objects, that through which it relates immediately to them, and at which all thought as a means is directed as an end, is intuition. This, however, takes place only insofar as the object is given to us; but this in turn, is possible only if it affects the mind in a certain way. (A19/B33)

Kantian intuitions directly present to the subject's awareness particular mind-independent items, events and states of affairs.<sup>75</sup> The items 'intuited' are distinct from the mental events of 'intuiting', and from the subject's sense-impressions, which are *causal*, not conscious, intermediaries in the processes of perception.<sup>76</sup>

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<sup>74</sup> As Allais argues in (2015), 162–3.

<sup>75</sup> We are talking here about Kantian *empirical* intuitions, i.e., perceptions of the material world, not his more obscure and controversial notion of *pure* intuition. I offer some remarks about the latter in 5.6, and in Stevenson (2021).

<sup>76</sup> There has been some debate whether Kant recognized the possibility of illusory intuitions — see the paprsr by Grune, McLear and Stephenson in Gomes and



What then could count as a *blind* intuition? If ‘blind’ means *unconceptualized*, it would be trivially analytic that intuitions without concepts are blind. Are there unconceptualized *perceptions* in adult humans? In his final work on logic Kant offered a rather prejudiced example:

If a savage sees a house from a distance, for example, with whose use he is unacquainted, he admittedly has before him in his representation the very same object as someone else who is acquainted with it determinately as a dwelling established for men. But as to form, this cognition of one and the same object is different in the two. With the one it is *mere intuition*; with the other it is *intuition* and *concept* at the same time.<sup>77</sup>

In a culturally converse situation, an archaeologist might dig up a mysterious ancient artefact for which he cannot think of a use. But neither case involves *completely* blind intuitions, for both can surely describe what they see as an object of a certain size and shape and colour. There is a more complete lack of conceptualization when we react to a noxious smell, a sudden bang, an angry tone of voice, or a bump from behind.

What about consciousness? This is a very hot potato in philosophy and psychology, and I will only handle it momentarily here.<sup>78</sup> Can some animal perception be *conscious*? I submit that ordinary language does not settle the question: it is not that there are facts out there (or rather, *in* there) that lie forever beyond our ken about ‘what it is like’ for a creature, but rather that we are unclear about what the question of consciousness *means*. A stag hears the bellow of a rival male and sees him approaching with antlers down, and he gets ready to do battle himself: so why not say he is conscious of his rival, and of the threat? But he cannot use words, and he certainly does not use a first-person pronoun, so there is no

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Stephenson (2017) — but I do not see that the issue is more than terminological, for we all have to accept that there can be perceptions that seem to present something that is not there, such as a shadow perceived as a rat.

<sup>77</sup> *Jäsche Logic*, 9:33.

<sup>78</sup> I will sketch a theory of several layers or types of consciousness in 3.5 below.

reason to say he is *self*-conscious. At the beginning of his *Anthropology* Kant declared that the fact that the human being can have the ‘I’ in his representations raises him infinitely above all other living beings on earth.<sup>79</sup> And famously in the first *Critique*:

The *I think* must *be able* to accompany all my representations, for otherwise something would be represented in me that could not be thought at all, which is as much as to say that the representation would be either be impossible or else at least would be nothing to me. (B131–2)

Our unconceptualized perceptions like smells, noises and bumps are surely ‘taken up into consciousness’ in *some* sense, they are not ‘nothing for us’, they can concern us urgently, affecting our behaviour and our emotions — and we can often say something (after the event) about what we reacted to. In Kant-speak, this does not count as ‘cognition’ (*Erkenntnis*) or ‘apperception’, but he describes it as ‘acquaintance’ (*Kenntnis*).

Kant’s main concern was with the necessary conditions of our *self*-conscious and conceptualized knowledge (‘cognition’), but in the *Anthropology* he acknowledged that we have many unconscious mental states:

The field of sensuous intuitions and sensations of which we are not conscious, even though we can undoubtedly conclude that we have them, that is, *obscure* representations in the human being (and thus also in animals) is immense ... only a few places on the vast *map* of our mind are *illuminated*. This can inspire us with wonder over our own being.<sup>80</sup>

However, conceptualization and availability to consciousness do not always coincide. We retain memories and beliefs through the periods when we are not consciously thinking of them (Freud called them *preconscious*), but if there is any truth in Freudian theory of the *unconscious*, people can have some level of awareness of the emotive or erotic or aesthetic meaning of someone’s behaviour or speech that they

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<sup>79</sup> *Anthropology*, 7:127.

<sup>80</sup> *Anthropology*, 7:135.

may resist being made explicit. Kant himself alluded to such repressed ideas:

We often play with obscure representations, and have an interest in throwing them in the shade before the power of imagination, when they are liked or disliked. ...

Such is the case with sexual love ... How much wit has been wasted in throwing a delicate veil over that which, while indeed liked, nevertheless still shows such a close relationship with the common species of animals that it calls for modesty? And in polite society the expressions are not blunt, even though they are transparent enough to bring out a smile. Here the power of imagination enjoys walking in the dark.<sup>81</sup>

*Subliminal* perception can involve conceptualization without consciousness: it has been experimentally and commercially demonstrated that people's behaviour can be affected by very brief displays of an image or advert or emotive word, where the *meaning* of the display must be understood at some mental level for the subliminal perception to have its distinctive effect.

A great deal of human experience is *both* conceptualized and conscious, most obviously when we make judgments that we explicitly express in language, but also when we have propositional thoughts that we keep to ourselves. This cognition (*Erkenntnis*) or experience (*Erfahrung*) is at the centre of Kant's attention, but he (and we) can distinguish three species of blind intuition:

*Conceptualizable, but unconscious*: Subliminal perceptions, and perceptions whose content is repressed. Kant calls these 'obscure' (*dunkel*).

*Unconceptualized, but conscious*: Unidentified tastes, smells, noises, flashes, pressures and tickles, where we are aware of our own sensations and often of their causes. We can also perceive unconceptualized features in music, abstract art, facial expressions and tones of voice.

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81 *Anthropology*, 7:136.

*Unconceptualized, and unconscious:* Kant calls the first effects of the physical world on our sense-organs ‘sensible impressions’, and at A78/B103 he declares that the work of synthesis is performed by the imagination, ‘a blind function of the soul, of which we are seldom even conscious’.

### 3.2 SYNTHESSES

Near the beginning of the *Analytic of Concepts* Kant explained his notion of synthesis as follows:

Transcendental logic ... has a manifold of sensibility that lies before it *a priori* ... Only the spontaneity of our thought requires that this manifold first be gone through, taken up, and combined in a certain way in order for a cognition to be made out of it. I call this action synthesis. By synthesis in the most general sense, however, I understand the action of putting different representations together with each other and comprehending their manifoldness in one cognition. (A76–7/B102–3)

This elaborates on the ‘working up’ passage at B1 by emphasizing mental processes of unifying ‘many’ into ‘one’. That might apply at several levels, the most obvious being the formation of a perceptual representation of something in the external world from a number of stimuli, perhaps extended over time, and in different sense-modalities.<sup>82</sup>

Kant attributes synthesis to the power or faculty of ‘imagination’, in crucial passages already referred to:

Synthesis in general, is ... the mere effect of the imagination, a blind though indispensable function of the soul, without which we would have no cognition at all, but of which we are seldom even conscious. Yet to bring this synthesis to *concepts* is a function that pertains to the understanding, and by means of which it first provides cognition in the proper sense. (A78/B103)

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82 Stevenson (2000), reprinted in Stevenson (2011),

No psychologist has yet thought that the imagination is a necessary ingredient of perception<sup>83</sup> itself. This is so partly because this faculty has been limited to reproduction, and partly because it has been believed that the senses do not merely afford us impressions but also put them together, and produce images of objects, for which without doubt something more than the receptivity of impression is required, namely a function of the synthesis of them. (A120 note)

Kant's terms 'synthesis' and 'imagination' are mysterious, because highly general, and I suggested in 2.2 that they are ambiguous between different kinds of mental processing. Allais says that Kantian synthesis should *not* be understood 'as a general term covering any possible organization of the sensory input by the mind'. In her view, synthesis does not produce intuitions (perceptions of particulars) out of sensations, rather intuitions themselves are synthesized (non-conceptually) into the structure of (public) space and time.<sup>84</sup> I do not care to pick scholarly fights about the interpretation of Kant's varying terminology, but it seems to me that his talk of synthesis bears interpretation at *several* levels, which we need to distinguish more systematically than he did:<sup>85</sup>

1. The processing of multiple sensory stimulations into perceptions of particular physical objects and events.
2. The perception of objects and events as spatially and temporally located with respect to the perceiver.
3. Perceptual judgment, i.e., the application of general concepts to particular perceived items.
4. The perception of objects and events as located in a single spatio-temporal world.

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83 It is tempting to read this word in its modern sense, but remember that for Kant any conscious mental state counts as a perception, so this statement is yet more radical than most interpreters have realized — as we saw Waxman arguing in 2.3.

84 Allais (2015), 169–172. She insists that Kant's synthesis is *not* the 'binding' of sensory information into 'the right spatial and temporal bundles', as described by Treisman (2003), which I discussed in 1.6.

85 See Essays 2 and 3 in Stevenson (2011).

The first two can operate at a non-conceptual level in animals and young children but concept-equipped humans can *describe* much of what we perceive, and its spatial and temporal structure.<sup>86</sup>

Kant was a pioneer in the philosophy of mind, and we can still learn from him, but it is unlikely that he hit on a set of theoretical concepts that will fit with everything we have come to know, two and a half centuries later. In saying that the synthesizing operation of the imagination is ‘blind’, he recognized that most of the mental processing in perception proceeds below our awareness. But if so, how was he (and how are we) supposed to know anything about it? Kant poured out a flurry of technical terminology, but as noted in 2.1, he was not entirely clear about the status of his own theoretical claims. He was painfully aware of the complexity of the subject-matter he was struggling with, and warned readers not to be ‘deterred by the obscurity that is initially unavoidable in a path that is thus far entirely unexplored’ (A98). Obscurity remains, and provokes scholarly industry, but I suggest we can improve on Kant’s pioneering efforts by developing more precise theories about mental processing, and testing them by observational evidence (getting our hands dirty with empirical science).

In the A Transcendental Deduction Kant presented *three* syntheses, or stages or levels of synthesis, but in the B edition he radically recast the whole argument. The threefold synthesis does not reappear, but he introduces (in yet more terminology) a distinction between ‘figurative’ and ‘intellectual’ synthesis (B151). I now offer some preliminary comments,<sup>87</sup> in non-Kantian terms, about the trio set out in A98–110: ‘apprehension in the intuition’, ‘reproduction in the imagination’, ‘recognition in the concept’.<sup>88</sup>

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86 For more on space and time, see the end of Chapter 5.

87 I return to the topic in 3.5.

88 At A94/B127 (and again at A115) Kant offered a slightly different version of ‘three original sources (capacities or faculties of the soul) ... namely *sense*, *imagination*, and *apperception*. On these are grounded 1) *the synopsis* of the manifold *a priori* through sense; 2) *the synthesis* of this manifold through the imagination; 3) *the unity* of this

In the first synthesis, ‘of apprehension’, the first point is that all representations occur successively in time. The statement that ‘every intuition contains a manifold in itself’ sounds like an exaggeration, for we can see a flash of lightning, hear a cry, or feel a thump, without noticing any subdivisions in those events; though of course, such momentary perceptions occur as part of one’s ongoing experience: they occur before or simultaneously with other perceptions. Kant talked of ‘the mind distinguishing the time in the succession of impressions on one another’, and declared that ‘in order for *unity* of intuition to come from this manifold (as, say, in the representation of space), it is necessary first to run through and then to take together this manifoldness’. That makes it sound like a conscious process of attention, like when a biologist takes a number of photographs of whales surfacing and works out how many different animals showed up. But Kant has said that synthesis is seldom if ever conscious, so I suggest his synthesis of apprehension should be understood as occurring at an *unconscious* level, in a succession of stimulations of the sense-organs whose effects persist (briefly) and form the inputs to mental processing. For example, the enlarging of a retinal image usually leads to awareness that something is approaching, or being approached, and greater amplitude of sound waves could indicate that someone is getting nearer or shouting louder. But in view of 2.3, we must distinguish between the time-order of sensory impacts (in all creatures) and the mental *representation* of temporal relations: between the succession of (minimally-construed) ‘experiences’ and the experience of succession.<sup>89</sup>

The second synthesis, ‘of reproduction in the imagination’, is rather obscure, despite Kant’s unusual flurry of examples.<sup>90</sup> One obvious point is that the mental association of representations cannot work unless there are regular conjunctions of the features and events that cause

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synthesis through original apperception’. The fluidity of his classifications suggests that he had not arrived at a settled view.

89 See the discussions of spatial and temporal perception in Chapters 4 and 5.

90 I would like to see many more examples to explain and test Kant’s abstract theorizing.

the relevant perceptions (Kant talks of the ‘affinity of the manifold’ at A113). He writes of ‘my empirical imagination getting the opportunity to think of heavy cinnabar on the occasion of the representation of the colour red’ — though surely not on *any* sighting of red (e.g., in a sunset), he was presumably thinking of digging up a distinctively red substance, and recognising it as cinnabar. His other example is of the difficulty that would be presented to empirical imagination ‘if a human being were now changed into this animal shape, now into that one’. Our recognition of instances of kinds depends on there *being* natural kinds, such as creatures, trees and chemicals, that exhibit stable and repeatable clusters of perceptible properties. Recognition of kinds can occur at a *non-conceptual* level, e.g., gorillas know which plants are edible and show them to their young, and some birds make different alarm calls for different kinds of predator. So there can be recognition of kinds that lies in between mere associative conditioning and perceptual judgment. This fits into Kant’s second synthesis, since he reserves concepts for the next level.

Kant’s third synthesis, ‘of recognition in the concept’, leads him into a very general discussion of objects of representation, transcendental apperception, and his notion of transcendental object (A103–110), raising large issues, some of which I will touch on in 5.6.<sup>91</sup> He makes it rather difficult to see how his third synthesis differs from the second, for he talks again of reproduction here, and of maintaining the content of thought from one moment to the next, and he uses the same example of counting. He goes on to talk of *concepts* and ‘*consciousness* of unity of synthesis’, declaring that ‘it is this *one* consciousness that unifies the manifold that has been successively intuited, and then also reproduced, into one representation’ (A103). These themes of conceptual and judgmental unification in self-consciousness (‘apperception’) come to the fore in what he called (at Axvii) ‘the objective deduction’, in A110–130. They are more fully developed in the B Deduction, a first section of which I will now focus on.

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91 See also Essays 1 and 4 in Stevenson (2011).



### 3.3 COMBINATION

The Transcendental Deduction in B is more top-down than bottom-up: it starts from human self-conscious conceptualizing mentality, rather than the lower levels that we share with the animals. Here Kant uses another semi-technical term ‘combination’ (*Verbindung*) rather more than ‘synthesis’, and I am going to argue that there is a relevant distinction. Let us put the relevant portion of text under the microscope:

The manifold of representations can be given in an intuition that is merely sensible, i.e. nothing but receptivity ... Yet the *combination* (*conjunctio*) of a manifold in general can never come to us through the senses, and therefore cannot already be contained in the pure form of sensible intuition; for it is an act of the spontaneity of the power of representation, and, since one must call the latter understanding, in distinction from sensibility, all combination, whether we are conscious of it or not, whether it is a combination of the manifold of intuition or of several concepts, and in the first case either of a sensible or a non-sensible intuition, is an action of the understanding, which we would designate with the general title *synthesis* ... (B129–130)

It may sound as if ‘combination’ and ‘synthesis’ are synonyms, but several important points are packed into this sentence:

(a) Combination can be conscious or unconscious. But Kant described synthesis as blind and unconscious at A78/B103, so combination must be either a broader notion that includes synthesis, or something different.

(b) Combination can be of the manifold of intuition, or of concepts. The latter can be the combination of two concepts into a complex concept (*black cat*), or into a judgment (*Some cats are black*), or within a non-asserted proposition (*If that cat is black, it's unlucky*). All these involve ‘acts of the spontaneity of the power of representation’, i.e., of the understanding as opposed to receptivity or sensibility. But if ‘combination’ covers such conceptual cases as well as perceptual synthesis, it would be a very ambiguous term. Kant’s very long sentence continues:

... in order at the same time to draw attention to the fact that we can represent nothing as combined in the object without having previously combined it ourselves, and that among all representations *combination* is the only one

that is not given through objects but can be executed only by the subject itself, since it is an act of its self-activity. (B130)

But that doesn't sound right, for if combination is a mental activity of combining representations it does not follow that it itself is represented. The mind cannot represent all its own activity (infinite regress would threaten).

The synthesis of sensible impressions into perceptual representations of objects operates below the level of consciousness, but in this opening section of the B Deduction Kant's focus is on understanding, spontaneity, and judgment, and he says that all combination is an action of the understanding (see also B134–5).<sup>92</sup> When he says that 'combination is representation of the *synthetic* unity of the manifold' (B130–1), I suggest we construe this *not* as the syntheses involved in *unconceptualized* perception, but the third kind of synthesis ('of recognition in the concept') distinguished in A, but here called 'combination', which is involved in making *judgments*. As Kant clearly understands, judgment is an affirmation of how things are: it is more than a relation between two concepts (B140), it claims objective rather than subjective validity (B141–2). At this point consciousness, more precisely *apperception* or *self-consciousness*, comes into the story:

The *I think* must be *able* to accompany all my representations, for otherwise something would be represented in me that could not be thought at all, which is as much as to say that the representation would either be impossible or else at least would be nothing for me. (B131–2)

Kant saw human judgment as involving *self-consciousness*, at least potentially. He sometimes dismisses unconscious states as 'nothing for us', but this does not mean they have no effects on us, only that they do not figure in our conscious cogitation. With the phrase 'the I think' Kant surely had in mind judgments rather than intuitions or concepts, for it belongs in contexts like 'I think that p' or 'I wonder whether p' (for some proposition p). A cat can see another cat, but it cannot say or think 'I see

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92 As Allais notes in (2015), 169 note 44.

a cat', or 'I seem to see a cat'. Of course, we do not explicitly attach 'I think' to every judgment we make, the point is that we must be *able* to add such a phrase, in language or in thought: it is the necessity of a possibility. For a judgment to 'be something for me' it must be available for me to make inferences involving it. I must be able to hold together any of my judgments: if I think that p, and I think that q, I can think that p *and* q. Moreover, I can say 'I used to think not-p, but I now think that p', and 'I think that p, but my wife thinks that not-p'. For any single mental act to count as a judgment, it must be a manifestation of that sophisticated mental faculty that Kant calls the power of judgment (*Urteilstkraft*). Inference can be seen as another species of the genus combination.

This suggests an important qualification to that striking statement which many interpreters<sup>93</sup> have seen as pivotal to the Transcendental Deduction:

The same function that gives unity to the different representations *in a judgment* also gives unity to the mere synthesis of different representations *in an intuition*, which, expressed generally, is called the pure concept of understanding. (A79/B104–5)

But the unifying of sensory representations into an unconceptualized perception (an 'intuition') of an object is surely *not* the same as the unification of concept and intuition in a judgment. The quoted statement expresses a top-down approach to cognition, where Kant is focusing on the necessary conditions of reflective, self-conscious mental activity. A concept can function both in a conceptualized perception ('That is a cat') and in judgments involving that same concept ('This cat is female'). However, the two kinds of unification are importantly different, for unconceptualized perception involves the unconscious synthesis of sense-impressions into the representation of an object, whereas judgment involves the (potentially) conscious combination of intuition and concept (or more than one concept) in a proposition.<sup>94</sup>

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93 Especially Longuenesse (1998).

94 See also McLearn (2020), 60.

So I suggest that we dare to improve on Kant by distinguishing explicitly between synthesis and combination.<sup>95</sup> *Unconceptualized synthesis* involves perceptual representation of objects, events, and states of affairs, represented perspectively in spatio-temporal relation to the perceiving creature. At a higher level than this, but presupposing it, *conceptualized combination* involves concept-application and judgment.

### 3.4 A MULTI-LEVEL RECONSTRUCTION

In the course of his densely-argued book (already discussed in 2.3) Waxman outlined a series of mental levels and mental processing in his valiant effort to make overall sense of Kant's writings about perception. He revels in Kant's baroque terminology of synopsis, manifold, apprehension, sensation, intuition, imagination, appearance, imagination, synthesis, association, reproduction, recognition, consciousness, apperception, experience, phenomena. He juggles the jargon with dexterity, 'laying great stress on the significance of passages that, in the text, often are no more than footnotes or marginal asides'.<sup>96</sup> Waxman says his book is restricted solely to the interpretation of Kant, but at one point he alludes to a theory of mental levels that invites more general application:

Kant's model of the mind is in truth a *stratified* one, wherein each lower level of representation is prior to and wholly independent of every higher one; indeed, each can legitimately be taken to denote a quite distinct kind of mind, that is *mental life*.<sup>97</sup>

I will set out the overall structure of Waxman's account, which enlarges in somewhat scattered detail on Kant's three syntheses in the A Deduction, starting with 'synopsis'.

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95 Waxman dramatically declares "To equate 'combination' — which does *analytically* entail unity of apperception — with 'synthesis' is to blind oneself to the very essence of Kant's philosophical enterprise" (1991), 150–1, note 28.

96 Waxman (1991), 6, see also 217–8.

97 Waxman (1991), 201, see also 210 note20.

## A *Synopsis*

Kant uses this word only twice, in connection with the *reception* of a manifold in sense, at A94/B127 and A97, yet Waxman devotes several pages to synopsis.<sup>98</sup> It may seem difficult to build an interpretation on such slender textual resources, but I suggest there is no harm in recruiting this term to refer to the manifold of physical stimulations on the sense organs — the truly raw, unprocessed inputs. They can be called ‘data’, or ‘sensible impressions’, but as I have argued, it is misleading to call them ‘sensations’, since prior to apprehension there is no consciousness whatsoever: we have no direct, ‘pre-imaginational’ awareness of what is ultimately ‘given’.<sup>99</sup>

## B *Apprehension*

This is the where Waxman extrapolates most beyond Kant’s text. He explains apprehension as *pre-combinative* imaginative synthesis of sensible impressions into ‘perceptions’ in Kant’s sense of the word, i.e., items of conscious awareness.<sup>100</sup> Apprehension gathers together the data of synopsis into ‘the manifold contents of one and the same representation ... even if only as a completely chaotic scatter’; it transforms them ‘into elements of a single manifold, i.e., contents of a manifold-containing representation’.<sup>101</sup> There is a tension between talk of ‘a single manifold’ and ‘an unrelated scatter’ here, but perhaps it can be resolved by reflecting that we are theorizing about many sensory stimulations in *the same creature*, available for central neural processing, and of potential relevance to action.

Apprehension involves a minimal degree of ‘obscure’ consciousness.<sup>102</sup> Waxman describes this as ‘the most rudimentary kind of sense perception

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98 Waxman (1991), 218–225.

99 Waxman (1991), 19, 186–7.

100 Waxman (1991), 126, 150n28, 185–6, 251.

101 Waxman (1991), 185, 202, 210n20, 227.

102 Waxman (1991), 18–19, 192. The other meaning of the English word ‘apprehension’ — *nervous anticipation* — is appropriate for the obscure (but in some minimal degree conscious) perception of movement behind one’s back, in animals or ourselves.

— consciousness of sensations as such (colours, sounds, pleasures, etc.), and not of anything through them'.<sup>103</sup> Our minds may be said in some sense to 'act' on the raw data, but *we* do not thereby act. The objects of apprehension are appearances of the most primitive kind: 'relationless, unformed, disconnected appearance';<sup>104</sup> they are *not* represented as in space or time.

That may seem to contradict Kant's saying that 'all our cognitions are in the end subjected to the formal condition of inner sense, namely time, as that in which they must all be ordered, connected, and brought into relations' (A99). However, Waxman is claiming to discern a mental level *below* human consciousness; apprehension is a pre-intuitional, pre-temporal sort of awareness. It is one thing for mental states to *be* successive, but it is another for us to *represent* our own mental states *as* ordered in time. Perhaps Kant moved too swiftly to the latter when he wrote 'in order for unity of intuition to come from this manifold ... it is necessary to first to run through and then to take together this manifoldness, which action I call the synthesis of apprehension' (A99).

Association seems to belong at this level, contrary to Kant's location of it at reproduction. This is the basis of conditioning, when repeated experience of Xs together with Ys leads to the behavioural expectation of another Y when presented with another X.<sup>105</sup> Pavlov conditioned dogs to salivate at the sound of a bell, but they did not perceive the bell as an object, they just reacted to any bell-like sound.

### C *Reproduction*

Waxman says 'since apprehension proper is neither in time nor in any way a representation of time, time first comes upon the scene with the action only of reproductive imagination'.<sup>106</sup> There is as yet

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103 Waxman (1991), 218. I am not a great fan of numbered superscripts, but we could relabel apprehension as CONSCIOUSNESS 1.

104 Call them APPEARANCES 1.

105 Waxman (2011), 20, 27n15, 77n109, 14).

106 Waxman (1991), 196, 210n.21.

no conception (no 'pure intuition') of time or space as infinite wholes (discussed in the next two chapters).<sup>107</sup> A dog can perceptually recognize its master from all other human beings, and some may say the dog has a 'proto-concept' of its master,<sup>108</sup> but it has no words and does not make propositional judgments.

### *D Recognition*

Concepts, whether empirical or mathematical, involve a consciousness simply and solely of the unity of a manifold; they 'are to be identified not merely with the outcome of recognitive synthesis but with the recognition itself'.<sup>109</sup> Animals know (*kennen*) objects, but they do not cognize (*erkennen*) them, the categories serve the higher degree of consciousness Kant called recognition (*Erkenntnis*). Kant calls such cognition 'experience', and its objects 'phenomena'<sup>110</sup> conceived in terms of the categories. At this highest stage of the mental food-chain, consciousness becomes *self*-consciousness, 'apperception',<sup>111</sup> in which we make potentially self-conscious judgments about the public world.

Waxman can thus suggest that higher animals are capable of reproduction and association but not recognition, that lower animals may be capable of apprehension but not reproduction. There may be primitive creatures incapable of obscure apprehensive consciousness but still sensibly affected (in synopsis) — in my terms, perhaps they only manage sensory registration.<sup>112</sup>

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107 This unconceptualized level of mentality can be labelled CONSCIOUSNESS 2, and the objects of outer perception APPEARANCES 2, namely things and events perceived in spatio-temporal relations to the perceiver and to each other.

108 See Longuenesse's twofold meanings of 'concept' and 'rule' (1998), 46–50.

109 Waxman (1991), 20, 27n15, 77n109, 149.

110 APPEARANCES 3.

111 CONSCIOUSNESS 3.

112 The obscurities in Kant's mentalistic account of apprehension and reproduction makes it difficult to line it up unambiguously with the modern biological distinction I have been insisting on throughout, between sensory registration and perceptual representation.

### 3.5 RE-WIRING?

If Waxman's interpretation of Kant is largely bottom-up, Longuenesse's approach<sup>113</sup> is resolutely top-down, following Kant's 'guiding thread', his (much-criticized) analysis of the logical functions of judgment (A68/B92–A83/B115), in what he later labelled 'the metaphysical deduction' of the categories. I will comment here on only one theme in another long and demanding book, namely the affecting of sensibility by understanding.<sup>114</sup> This is closely connected with her reading of Kant's structurally important claim:

The same function that gives unity to the different representations *in a judgment* also gives unity to the mere synthesis of different representations *in an intuition* ... (A79/B104–5)

My qualification about this in 3.3 involved distinguishing unconceptualized perceptual representation from the conceptual level of representation that is manifest in making judgments; hence my proposed distinction between synthesis and combination (or combination as one special kind of synthesis).

But if animals and very young children enjoy unconceptualized sensibility *without* any capacity to judge, surely *their* sensibility cannot be affected by the understanding? However, Longuenesse's interpretation is subtle:

The acts of thinking the discursive unity of concepts in judgments are *the same* as the acts of combining and ordering the sensible given *in order to reflect universal representations combined in judgments*.<sup>115</sup>

The very acts of judging by way of which we subsume intuitions under concepts and subordinate lower concepts to higher order concepts *also provide* rules for ordering manifolds in intuitions ...<sup>116</sup>

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113 *Kant and the Capacity to Judge*, in English translation (1998).

114 Longuenesse (1998), 202, 228), and (2005), 36, 69.

115 Longuenesse (1998), 200, with my emphasis on the last clause.

116 Longuenesse (2005), 92, with my emphasis.



I take these statements to imply that if a child has reached the stage of making some judgments (e.g., that her doll is now in the cupboard), then she must already have the relevant concepts (of doll, and cupboard), as shown when she applies her words in perception. She — or rather, her brain — thereby *unconsciously* ‘orders and combines’ in rule-governed ways her ‘sensible given’, i.e., sensory stimulations (her ‘manifold in intuition’). Thus her developing conceptual understanding can be said to have had an effect on her pre-existing unconceptualized sensibility.

But what are we to say about the earlier stage of infant mentality, before she has acquired any concepts, and *a fortiori* cannot make judgments? She then has sensibility, in the sense of some non-conceptual perception of objects, but not yet Kantian understanding. Consider now the *changes* that occur as she learns her first words. In this developmental process it is very plausible to say that the first dawns of understanding make changes in her previously non-conceptual sensibility. She learns to say ‘doll’ when that favourite toy is presented to her, or when she wants it, and this growth of behavioural and linguistic capacity must involve some changes in her neural processing,<sup>117</sup> and there may be changes in the way she perceives her doll and interacts with it. When she progresses later on from recognizing her mother simply as ‘mum’ to understanding the meaning of the phrase ‘my mother’ as the woman who has given birth to her (an event she cannot have witnessed) there is further conceptual progress, and there may well be relevant changes in emotional development.<sup>118</sup>

A final biological gloss on Longuenesse’s theme of the affections of sensibility by understanding arises from evolutionary considerations. The brains of our hominid ancestors have evolved the cognitive architecture that makes it possible for our children to start conceptual development at a very young age. There must be some innate wiring in their brains that enables this (differing from our nearest primate relatives), and

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117 Though neuroscience may be challenged to identify precisely what those changes in the brain may be.

118 Here is a possible link to my discussion of emotion in Chapters 8 and 9.

neuroscience is still investigating what that is. In the long process of evolution, the selective advantage of some degree of conceptualization will presumably have interacted with our ancestors' sensory capacities. In that sense, understanding may have affected sensibility in the deep past.<sup>119</sup>

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119 The idea of 're-wiring' in child development and in hominid evolution is discussed by Bermudez (2005), Chapter 10.

## CHAPTER FOUR

# SPATIO-TEMPORAL PERCEPTION

### 4.1 REGISTRATION OF SPATIAL RELATIONS

As we have seen in Chapter 1, there is a reasonably clear line between perceptual representation and mere sensory registration. Spatial registration begins very low down the phylogenetic scale. Bacteria have magnetic sensitivities that tend to guide them to areas with less oxygen,<sup>120</sup> but they do not perceptually *represent* the direction of the magnetic field (or anything else), for they do not have brains. Some steps up in complexity, the desert ant emerges from its hole in search of food and traces a randomly wandering path in the featureless sand, but when it finds a dead fly it brings its booty quickly back to its nest in a remarkably straight line. Apparently, it manages that by ‘path integration’ (also called “dead reckoning”): a physiological system in the ant computes the sum of distances and directions traversed in the outward path and guides the ant’s direction home by the shortest route. Yet this is not spatial *perception*: the ant’s on-board system somehow instantiates the geometric computation, but the ant itself does not *perceptually represent* the shortest route back.<sup>121</sup> The mere correlation of information in a creature’s receptors and nerves with spatial features of its environment does not amount to spatial perception. (The size and shape of a fossil informs us about the size and shape of the original creature, but the fossil does not perceive anything.)

### 4.2 UNCONCEPTUALIZED SPATIAL PERCEPTION

Spatial *perception* implies representation of particular objects or features or relations in space. It is found in some arthropods such as

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120 Burge (2010), 300.

121 Burge (2010), 499.

the eight-eyed jumping spider who preys on other spiders, navigating complex routes through tangles of branches to get itself into position to leap onto its victim from some distance away: it has accurate spatial representations of routes, sub-routes, and the positions of its targets.<sup>122</sup> A hungry lioness creeps to within charging distance of a zebra, and when she gives chase her movements follow its swerves and avoid its kicks, until she gets close enough to trip it up and administer the killing bite to its neck. Many other animals see things positioned at various distances from themselves: lusty male whales will intently track the movements of a female through space and time. In a triangular situation, an alpha chimpanzee sees another male approaching one of his harem of females, and swiftly chases away the insubordinate.

An infant learning the beginnings of hand-eye coordination will reach out to grab a toy dangling over her cot. Later she will crawl to retrieve a toy, and can hear the direction of a sound. Later still, she will find that a square peg will not go into a round hole. These animal and infant perceptions are unconceptualized, there is (as yet) no use of language. And they are egocentric: the subject perceives things at a perceptible distance from herself, and often within the range of action (but an infant can hear a siren, or see the moon, but with no idea how far away they are). An egocentric spatial framework is necessary for spatial perceptual representation, and for agency.<sup>123</sup>

So far, there need not be any *allocentric* spatial representation, no mental map of the layout of things without reference to the present location of the subject. True, a lioness remembers where she has hidden her cubs while she goes hunting, a puffin knows in which burrow he must deliver his catch of fish to his pufflings, and swallows know in which direction to migrate when autumn comes. But there are sensory cues in such cases that enable the creatures to find the right place and move in the right direction. Rats remember how to run a maze to find a reward, and cats expertly navigate the walls and trees of their territory, but the

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122 Burge (2010), 514–7.

123 Burge (2010), 201.

simplest explanation of such acquired spatial skills may be that they rely on a mere association of landmarks (visible, tangible, or olfactory) with appropriate muscle movements and actions. That an animal navigates by landmarks, perceived from wherever it is at the time, is not sufficient reason to credit it with an allocentric map of its whole range. Some creatures *do* depend on allocentric spatial maps with origins in the sun, the stars, or the home nest, but the conceptual and empirical issues in explaining their behaviour are delicate.<sup>124</sup>

It is important to remember that we humans have unconceptualized egocentric perceptions throughout life, for we rely on basic spatial navigation whenever we avoid bumping into things and other people. Some of us develop more sophisticated spatial skills such as playing tennis, painting pictures, or arranging flowers. These non-conceptual levels of mentality do not involve any geometrical concepts, or any conception of the whole of space.

#### 4.3 CONCEPTUALIZED SPATIAL PERCEPTION

Let us now consider spatial concepts expressible in *language*, beginning with words and phrases for spatial relations that humans learn from a few years old, such as ‘here’, ‘in your hand’, ‘in my pocket’, ‘up there in the sky’. Understanding such locutions can be manifested in the direction of attention, in gestures and actions, and perhaps in further words.

A more advanced stage involves language that is implicitly egocentric but need not involve any *present* perception, for it depends on the speaker’s previously-acquired knowledge of her locality — for example, ‘in the kitchen’ (the kitchen in our house), ‘in that cupboard (the one we were talking about)’, ‘in the park’ (the one we always go to). For communication to succeed, the hearer must share the local spatial knowledge that the speaker is drawing upon.

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124 See Burge (2010), 201–208, 509–514.

At what stage does allocentric spatial representation kick in? It is manifest when someone can describe or draw a route from A to B without being at A or B. Before the days of satnavs, London taxi drivers (those virtuosos of allocentrism) had to know the shortest (or quickest) route from, say, an address in NW2 to a destination in SE11. Small boys and girls may be able, while still at home, to describe alternative routes from the park to the ice cream shop. And if migrating birds navigate by the stars instinctively, the ocean-going Polynesians were able to do it conceptually with the aid of their culturally-developed knowledge of the movements of the constellations across the sky.

Allocentric language involves spatial identifications using proper names and systems of measurement, such as 'The eighteenth hole of the Old Course in St. Andrews', '125 kilometres East of Novosibirsk', '27 degrees South and 96 degrees West', 'the North pole of Mars', 'the centre of the Andromeda galaxy'.<sup>125</sup> To use such identification one has to know where the named places are, and understand the systems of measurement involved. If I have no idea where Novosibirsk is I can consult the index in an atlas; if you don't know what the Andromeda galaxy is you can ask an astronomer.<sup>126</sup> Measurement involves public conventions: one has to *learn* about kilometres, latitude, and the Greenwich Meridian. An allocentric representation needs to be related to one's egocentric space for practical route-finding: a map is of little use to me unless I know where I am on the map, and which way to hold it given the direction I am facing.

We humans can learn geometrical concepts like 'straight line', 'circle', 'right angle', 'hexagon', 'cube', and 'cylinder'. Approximations to some of these can be found in nature, but these concepts are idealized to ignore such imperfections as knots in a tree trunk or craters on the moon. It is more challenging to represent dodecahedrons and other complex three-dimensional shapes; and it is something else to

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125 See Essay 3 in Stevenson (2011).

126 Kant made a similar point in his essay *Concerning the Ultimate Ground of the Differentiation of Directions in Space*, 2:379–380, in Kant (1992).

understand, or prove, geometrical propositions such as Pythagoras's theorem. Geometry begins with concepts that we form early, but its mathematical development is more demanding.

What about representing space *as a whole*? (Here we approach Kant's concerns, as we will see in the next chapter.) The word 'Space' (sometimes dignified with a capital letter to indicate it works like a proper name) is commonly used to refer to everything outside the earth's atmosphere. From prehistoric times curious minds wondered about the spatial arrangements of the visible heavens: the sun, the moon, stars, planets, and the occasional comet. Astronomy and cosmology have revealed mind-boggling extents of space and time, but most humans live earth-bound lives, perhaps never thinking of 'Space' as the three-dimensional extent encompassing everything in the universe. Ask your allocentric taxi driver whether space goes on and on without boundaries, and he may reply 'Well, guv'nor, I never thought about that, it's above my pay grade'. Ask him if space is infinitely divisible, or whether two parallel lines can ever meet, and you may get the same dusty answer. That may be the condition of most of us, most of the time; yet if we are suitably prompted, we can readily enough form some sort of 'idea' (to use a deliberately vague term at this stage) of infinite space.

#### 4.4 PERCEPTION OF EVENTS AND TEMPORAL RELATIONS

Some of the issues about time are similar to those about space (Kant tried to treat them in parallel.) As we have noted, at the lowest animal level simple organisms react to spatial features of their environment, and this means of course that they react at the times *when* those features are present, or when relevant changes *happen*. Bacteria move to areas where there is currently less oxygen.<sup>127</sup> The very notion of 'reaction' implies time-sensitivity: reactions are caused by stimuli from the environment. Even plants do it: some flowers open their petals only when

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127 Burge (2010), 325,

the sun shines. Temporal registration can take three forms: behavioural sensitivity to the time-order of stimuli (in trained rats), to phases within cycles (such as days and nights, or seasons), or to fairly short time intervals (e.g., the time it takes for flowers to regenerate sugar, so that it is worthwhile for a bee to revisit).<sup>128</sup>

At the level of perception, we have emphasized that many animals perceive objects — but they also perceive *events* that concern their survival and reproduction, and they perceive them non-conceptually, of course. Birds on the ground are hypersensitive to movements in their vicinity: you can watch them as long as you stay immobile, but move your head or raise a hand, and they will flit. Humans too can be aware (and apprehensive) of movements ‘behind our back’, seen at the periphery of our visual field. In such cases there is perception of movement without any perceptual representation of *what* is moving.<sup>129</sup> But in most situations there is both: a grazing deer may see potential predators in the distance, but when it sees (or hears, or smells) a tiger approaching *nearer*, it ‘decides’ that *now* is time to flee. A vixen may see that her cub is wandering away from the den, and will spring to bring it back. A tennis player sees where the ball is going down the baseline, and runs to hit it back. Temporal sensitivity that guides an animal’s actions amounts to perceptual representation of times.<sup>130</sup>

*Conceptualized* temporal representation is manifest in the use of egocentric temporal indicators such as ‘now’, ‘yesterday’, ‘last century’, ‘in five minutes’, ‘in two years’, ‘after my death’, ‘the next time Halley’s comet returns’. Allocentric temporal representation is exemplified in ‘10am on 9/11/2001’, ‘on the day Caesar was assassinated’, ‘in the Paleolithic’, ‘on the 300th anniversary of Kant’s birth’, ‘when the sun becomes a red giant’.

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128 Burge (2010), 518–20.

129 The colour or shape of the moving object is not seen, so these cases present a counter-example to the sense-datum theory that visual experience always involves a coloured and shaped patch — see Hardin (1988), 101.

130 As Burge argues (2010), 521–9.



There is of course no such thing as perceiving times (or time) itself, temporal perception is always of perceivable changes, of events. But most of us can understand some talk of time itself, whether truisms like 'time passes' or more poetic lines such as 'time waits for no man', 'time bears all its sons away'. In metaphysical mood, we may form some vague idea of Time as the whole extent of the passing show in the universe. The next chapter will touch on Kant's mysterious and controversial treatment of time.



## CHAPTER FIVE

# RECONSTRUCTING KANT ON SPACE AND TIME

In the Transcendental Aesthetic Kant claimed that space and time are the *a priori* forms of our intuition, and — which may not be the same thing — that they are *a priori* ('pure') intuitions. He dramatically argued that although space and time are the 'forms' of everything we perceive, they are 'transcendentally ideal', not features of things as they are in themselves. Commentators have long debated what he meant by these assertions, and have differed sharply about whether they are true. Strawson and Guyer reject them, Allison offers an anodyne interpretation, while other faithful interpreters such as Allais offer their own defence.<sup>131</sup> I propose one more heave to assess Kant's theses about space, time, and perception. My heave will be 'bottom up',<sup>132</sup> starting from unconceptualized perceptions of spatial and temporal relations.

Some of the issues about time are similar to those about space, and Kant set out to treat them in parallel in the Aesthetic, recognizing that whereas space is the form of outer sense, time is the form of *both* outer and inner sense. Later in the *Critique* he realized that temporal representation is even more fundamental in our human experience, in ways I have touched on in previous chapters.

### 5.1 SPACE IN THE TRANSCENDENTAL AESTHETIC

In line with common sense, Kant recognized that animals can perceive objects in space. In the Aesthetic he briefly mentions our

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131 Strawson (1966), Guyer (1987), Allison (2004), Allais (2015).

132 That, I suppose, is the nature of heaves.

egocentric, perspectival (and often *unconceptualized*) perceptions of objects at some distance from our own spatially located bodies (A22–3/B37–8). However, he passes rapidly on to two *conceptualized* kinds of human spatial representation: in geometry, and in our representation of Space as a whole. He describes these as ‘*a priori* intuitions’, and he claims that both involve synthetic *a priori* knowledge. However, they raise different issues, as Kant had realized earlier when he distinguished between the methods of mathematics and metaphysics in 1764.<sup>133</sup> In the previous chapter I suggested that the formation of geometrical concepts need not involve any idea of Space as a whole.

The *Critique of Pure Reason* did not arise all of a sudden in Kant’s mind. He remarked that the year 1769 gave him great light, apparently his realization of his fundamental distinction between sensibility and understanding, intuitions and concepts. The first (rather unripe) fruit of that was his *Inaugural Dissertation* of 1770,<sup>134</sup> in which he postulated separate sensible and intelligible *worlds* containing different objects of sensibility and understanding. But in ‘the silent decade’ that followed he came round to what now seems the obvious view that we can perceive and apply a concept to the same object, in judgments of the form ‘This perceived item x falls under the concept F’.

Despite the strictness of the distinction between concepts and intuitions, Kant’s treatment of space and time in the *Aesthetic* seems remarkably inconstant: he talks of the *representation* of space, of the *concept* of space, and of space as a pure *intuition*. So what exactly was he asserting about space? His ubiquitous term ‘representation’ (*Vorstellung*) is ambiguous between:

- (i) the object (or extra-mental reality) represented;
- (ii) the mental act of representing;
- (iii) the content (the Fregean sense) of an act of representing.

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133 *Inquiry concerning the Distinctness of the Principles of Natural Theology and Morality*, Kant (1764/1992).

134 Kant (1770/1992).

Before we address the tricky topic of Space as a whole, let us apply these distinctions to the egocentric and non-conceptual representations discussed in Chapter 1, for example those of the alpha chimp defending his hareem:

- (i) the object he sees is a rival
- (ii) at a certain time, he sees the rival approaching one of his females
- (iii) he sees the rival's approach perspectively, from his own spatial position at the time (that is how he knows in which direction he must make his move)

Something similar applies to a human playing rugby, who must be aware of the positions and movements of team mates and opponent, although in the heat of the moment there is no time to apply spatial and temporal *concepts* (though they may be used in coaching).

Armed with these thoughts, let us take a fresh look at Kant's four 'Metaphysical Expositions'. We need to distinguish (i) the whole of Space as (allegedly) an object intuited, (ii) acts of intuiting spatial relations, or perhaps Space itself, and (iii) the way we (allegedly) intuit Space.

- 1) Space is not an empirical concept that has been drawn from outer experiences. For in order for certain sensations to be related to some thing outside me (i.e. to something in another place in space from that in which I find myself), thus in order for me to represent them as outside and next to one another, thus not merely different but as in different places, the representation of space must already be their ground. ... (A23/B38)

Remember our chimpanzee: he has non-conceptual spatial representations of other chimps at some distance from himself and from each other, without having any representation of the whole of Space. It might be suggested that any perceiving and acting subject, even an animal, must have a *pre-conceptual* awareness of Space as a whole. But what could that mean? Is it manifested in their disposition to move and act *beyond* any place they have already occupied? An elephant may wander far and wide in search of water, but it would be absurd to

suggest that the elephant is aware of unlimited three-dimensional Space extending over its head or under the earth beneath its feet.

Moving to modestly conceptualizing beings such as any London geezer, a Kantian might say they are implicitly committed to a representation of all-inclusive space by their disposition to *ask*, when anything is mentioned, where that item is to be found. That presupposes that they understand the distinction between fictional and real individuals.<sup>135</sup> Human allocentric knowledge can be expanded from home to neighbourhood, to nation, to the solar system, and beyond; and our knowledge of the past can be extended from grandparents to recorded history, even to the stone age, or the dinosaurs. But to form a representation of Space as a whole is a mental leap beyond all representations of particular objects. It is to *conceive* of Space extending without limit, seemingly infinite, in three dimensions, containing objects (or stuff or radiation) at huge distances from our earth, perhaps empty in some regions.

There is a distinction between the finite and bounded, and the unbounded and apparently infinite. It does not make sense to talk of *perceiving* Space as whole (how can anyone perceive the infinite?), and though we may talk of Space, we do not refer to it in the way that we refer to particular things, it is not even clear that there is an 'it' to refer to. Nevertheless, this mental leap is one that many of us seem able to make. Kant's claim that 'the representation of space cannot be obtained from the relations of outer appearance through experience' shows awareness that there is a leap here. Leibniz's view is plausible, that the concept of Space as a whole is 'something ideal' that is developed from, though not directly given in, our representations of the spatial relations of co-existing things.<sup>136</sup>

2) Space is a necessary representation, *a priori*, that is the ground of all outer intuitions. One can never represent that there is no space, though one

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135 Alice's Wonderland cannot be located on any map, but Diego Garcia can; Shakespeare's Lear never existed, but Richard II did

136 See Leibniz's Fifth Paper in *The Leibniz-Clarke Correspondence* (1717/1956).

can very well think that there are no objects to be encountered within it. ...  
(A24/B38–9)

It is hard to see what could count as representing that there is no Space: one can utter those words, but what could we *mean* by them? What sort of impossibility is this? It is not merely psychological, a feat that some superior beings might manage. It is not clear that we can so readily conceive of Space being totally empty of objects. One can conceive of particular objects being destroyed (even mountains, planets or stars), but that is different from imagining *everything* going out of existence. One can imagine every solid being dissolved into gas or quantum fluctuations, but that would still leave some sort of matter or energy distributed in Space. One's own body occupies space. Can one imagine being disembodied, yet still representing empty Space? We each believe the world existed before our birth and will go on after our death, but Kant invites us to conceive of something more radical than that.

These first two arguments claim to show that space — more precisely, our *representation* of Space as a whole — is 'a necessary representation *a priori*'. But what does that mean? It implies that space is not an *empirical* representation, not something that can be instantiated in some experiences but not in others. Spatial relations are a necessary feature of all 'outer experience', nothing counts as perception unless it represents something relative to the perceiver's body. Not all perception represents material objects: we perceive flashes, sounds, smells, heat or cold. Some ocean-dwelling creatures may not have eyes, but if they *represent* anything rather than merely reacting to stimuli, it must be perceived as somewhere near, in a certain direction, perhaps within distance for action. Any perceptual representation must be spatial, but that does not imply that all conceptualizing humans must represent Space as a whole.

Kant's second pair of arguments are designed to show that our representation of all-embracing Space is a pure *intuition*, rather than a concept. More precisely, our minds can form representations of Space as a whole that are not judgments, not concept-applications, but '*a priori* intuitions' (*quasi*-perceptions) of Space as a singular item intuited.

3) Space is not a discursive or ... general concept of relations of things in general, but a pure intuition. For, first, one can only represent a single space, and if one speaks of many spaces, one understands by that only part of one and the same unique space. ... (A25/B309)

But these claims about what can be thought, understood, or represented are not obvious. In the human order of development reviewed in the previous chapter, we start from unconceptualized perspectival perceptions of objects around us, we progress to some use of spatial language, then we build up an allocentric mental map of the neighbourhood, which can get enlarged to a city, a country, the earth., and perhaps of Space as a whole. Our representations of the local parts *precede* representations of larger regions.

Someone who has formed a representation of the whole of Space will say that all spaces are parts of Space. But is it so obvious that we can only represent a single Space? We conceive of *fictional* worlds, but Kant's point is that there can be *only one real world*. But what about a conception of heaven in which we live on as resurrected bodies in Heavenly Space, conceived *not* as somewhere above us, but as bearing no spatial relationship to our familiar world? And what about the many-worlds interpretation of quantum mechanics, in which the universe is said to divide into parallel worlds, between which there is no ongoing spatial or causal relationship? I hold no brief for these remarkable conceptions, but the fact that they cannot be *immediately* ruled out as incoherent suggests that the thesis of the necessary unity of Space needs more support.

4) Space is represented as an infinite *given* magnitude. ... no concept, as such, can be thought of as if it contained an infinite set of representations *within itself*. ... Therefore the original representation of space is an *a priori* intuition, not a *concept*. (A25/B39–40, with Kant's emphases)

Kant does not specify here whether he means that space is infinite in extent, or infinitely divisible, or both; his phrases 'representations within itself' or 'parts of space' can bear both interpretations. But *who* thinks of space as infinite, or infinitely divisible? Probably not most adults, who may never think of geometric constructions as extending or



dividing portions of spaces *ad infinitum*. We have long realized that the surface of our planet is finite but unbounded: if you travel far enough in a straight line you must eventually come back to your starting point. The idea of an edge to Space is absurd: we can run out of space to build on our property, but there can be no such thing as running out of Space. Is it conceivable that an everlasting spaceship travelling in what seems to be a straight line would eventually return to where it started? Could three-dimensional space itself be unbounded yet finite? We are told by relativity physics that space itself is not Euclidean, but curved around massive objects, and cosmologists may say Space itself has expanded from a single point of origin in the Big Bang. Physical theory gives reasons to believe that the spatial structure of the universe does not conform to the Newtonian and Euclidean conception that Kant was dealing with.

Kant's third argument emphasizes the *singularity* of Space, but the fourth asserts its *givenness*, the other main feature of the Kantian notion of *intuition*:

[Intuition] takes place only insofar as the object is given to us; but this in turn [at least for us humans]<sup>137</sup> is possible only if it affects the mind in a certain way ... Objects are therefore given to us by means of sensibility, and it alone affords us intuitions (A19/B33)

How can space be both infinite and 'given'? We cannot perceive the whole infinite extent of space, or an infinite set of subdivisions of space converging on a dimensionless point. Nor can empty Space or spaces cause changes in our sense-organs. Kant claims that Space is a single object of 'pure' or 'a priori intuiting', but it remains mysterious what that can mean: 'purity' (non-empirical status) seems inconsistent with the causal nature of the notion of intuition as Kant introduced it at A19/B33.

Some of us do manage to think about infinite extent or infinite divisibility. So how do we do it? Surely by conceptually generalizing (in a characteristically mathematical way) experiences of finding more

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137 Kant added this phrase in the second edition.

stuff beyond anything so far encountered, and of making subdivisions in spaces already perceived. Thus we get to say that beyond any space there is more space, and that any space contains smaller subspaces. These are not empirical claims about the infinite extent of *matter* or its physical divisibility, but mathematical theses about Space — or our representation of it. They involve the never-ending iterability of the relevant mental constructions (though we need a good deal of empirical perception before we understand that). There is a special kind of mental activity here, but is ‘pure intuition’ the right description of it?<sup>138</sup> Surely it is in an important way *conceptual*. Many interpreters take it that Kant’s transcendental idealism follows from the Metaphysical Expositions of space,<sup>139</sup> but I am questioning whether we can accept Kant’s *premise* that Space as a whole is an object of *a priori* intuition.

## 5.2 TIME IN THE TRANSCENDENTAL AESTHETIC

Let us now critically examine Kant’s four ‘Metaphysical Expositions’ of time.

- 1) Time is not an empirical concept that is somehow drawn from an experience. For simultaneity or succession would not themselves come into perception if the representation of time did not ground them *a priori*. (A30/B46)

There is no such thing as perception of Time ‘itself’, empty of all change. And there can be no ‘experiences’ that are *not* of something located in time: in that sense, time is not an empirical concept. Any registration or perception of a change in the world, an event, is itself an event occurring at a particular time in the life of the creature. What can Kant mean by ‘simultaneity or succession coming into perception’? How does the representation of time ‘ground’ them? He may have been

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138 I voice similar doubts about the notion of *a priori* intuition in arithmetic in Stevenson (2021).

139 See Allais (2015) Chapter 8 for a recent defence.

thinking of our conscious judgments of simultaneity or succession, which involve conceptualized representation of temporal relations, but not of Time ‘itself’, ‘taken neat’. *Unconceptualized* perception of events (in animals or young children) does *not* involve concepts of simultaneity or succession, let alone of Time itself.

- 2) Time is a necessary representation that grounds all intuitions. In regard to appearances in general one cannot remove time, though one can very well take the appearances away from time. ... (A31/B46)

The repeated mention of ‘grounding’ invites similar comments. The new point here is that Kant poses the thought-experiment ‘Can we conceive of the whole of Time, but empty of all objects, all changes, all events?’, and he assumes that the answer is obviously yes. There is no question of *perceiving* the whole of empty Time,<sup>140</sup> the claim is about *conception*. Admittedly, Kant (and those of us who think about such arcane matters) *seem* to understand Newton’s claim that absolute time flows at a constant rate, regardless of all material changes in the universe. We can think we understand something, if only to reject it. But the same applies to the concept of the village barber who shaves everyone in the village who does not shave himself, the idea of a rational square root of 2, or the story that there is a town in Ireland that has a triangular square. There is a sense in which we understand contradictory suppositions, but that does not provide any independent support to the indisputable truth that all perceptual representations (whether conceptualized or not) occur within time, and represent things as located in time.

- 3) Time is no discursive or, as one calls it, general concept, but a pure form of sensible intuition. Different times are only parts of one and the same time. That representation, however, which can only be given through a single object, is an intuition. ... (A30/B47)

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140 And perhaps not of perceiving a period of empty time, though that may be disputed by someone who claims to have been aware of the passing of time while lying sleepless and thoughtless.

Our ordinary conception of times sees all events as within one all-embracing temporal system, for which I have been using the capitalized ‘Time’. We cannot make sense of it being four o’clock on the sun, though we believe the astronomers who say it takes about eight minutes for light from the sun to reach us on earth. We are intrigued to hear from relativity physics that time goes faster for anything that approaches the speed of light. Some of us may believe that Heaven (and Hell?) occupies a time-zone that bears no temporal relation to time in this world. But the singleness of our representation of Time does not show that Time is an object of perception, it is instead a rather arcane *conception*. If ‘pure intuition’ means not just that time is a necessary *form* of all intuition, but is itself a particular but pecuniarily all-embracing *object* of intuition,<sup>141</sup> the latter does not seem to amount to anything more than conception.

- 4) The infinitude of time signifies nothing more than that every determinate magnitude of time is only possible through limitations of a single time grounding it. The original representation of time must therefore be given as unlimited. ... (A32/B47–8)

Clearly Kant was not thinking here of animal perception, but of the thoughts of those few humans who wrestle with metaphysics or science. We do not ordinarily conceive of a beginning or end of time, any more than of boundaries to space. Yet modern cosmology tells us about the origin of the whole universe in a Big Bang — and some may worry about a Big Crunch at the end. I am not sure whether it makes any sense, even to physicists, to talk of time *before* the Big Bang. Theologians may say there was no time before God’s creation, and that time will come to an end at the last judgment. I hold no brief for these speculations, I just remark here that it is not so obvious that our conception of Time has to be infinite, and its apparent infinity does not show that Time as a whole is an object of ‘pure’ intuition, rather than metaphysical conception.

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141 Kant belatedly makes this distinction in the difficult and much-discussed footnote in the B Transcendental Deduction at B160–1. It seems his thought about space and time was still work in progress, so we have to do some of the work for ourselves.

### 5.3 NECESSARY TRUTHS ABOUT SPACE AND TIME

From our discussions in this and previous chapters, some conclusions can now be summarized.

1. All perception (conceptualized or not) *represents* objects, features or states of affairs distinct from the perceiver, existing in particular regions of space at particular times.<sup>142</sup>
2. All perception (conceptualized or not) is *perspectival*, it takes place from the point of view of the embodied perceiver, located at a particular point in space, and at a particular time.
3. Registration and perception are *causal* relations, they involve 'affection' by features in the creature's environment; the effects on sense-organs and nervous systems are physiological events and processes *within* the body (in a small space in a short time).
4. *Unconceptualized perception* of particular spatial and temporal relations implies representation of them, but does not involve any representation of Space or Time as wholes.
5. *Conceptualized perception* of spatial and temporal relations involves linguistically expressible concepts of them.
6. Conscious conceptualized awareness of spatial or temporal features of one's own mental states (in the mosaic of coloured patches beloved by theorists of visual sense-data, or the awareness in 'inner sense' of succession in one's own thoughts) is the product of *unconscious preconceptual processing*.<sup>143</sup>
7. There is no perception of the whole of Space or Time as *empty* containers; some humans form some such *conceptions*, but they are not necessary for conceptualized perceptions of particular spatial and temporal relations.

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142 This is the 'austere interpretation' of Strawson (1966) 47–51: any particular items of experience must occur *somewhere* (if external), and *somewhen*, they must have a local, or least a temporal, location. And for conceptualizing humans, they must have, if not a name, some means of egocentric or allocentric verbal identification.

143 This is a fundamental thesis of Waxman (1991).

8. There can be no perception of the total *contents* of space and time, but the existence of the whole of reality is presupposed in conceptualized perception of any parts of its parts.<sup>144</sup> Philosophers can form such a conception, but there is not much occasion to apply it.

#### 5.4 TRANSCENDENTAL IDEALISM?

Conspicuous by its absence from the above list is Kant's statement that 'we can speak of space, extended things, and so on, only from the human standpoint' (A26/B42). Obviously, we humans can only speak of *anything* by using our words and our powers of perception and conception, but Kant had a more radical 'transcendental idealist' claim in mind:

We are acquainted with nothing except our way of perceiving [objects], which is peculiar to us, and which therefore does not necessarily pertain to every being, though to be sure it pertains to every human being. We are concerned solely with this. Space and time are its pure forms, sensation in general is its matter (A42/B59–60, see also A26–7/B42–3).

... if we remove our own subject or even only the subjective constitution of the senses in general, then all constitution, all relations of object in space and time, indeed space and time themselves would disappear, and as appearances they cannot exit in themselves, but only in us. (A41/B59).

In alluding to our ignorance and impermanence, this is reminiscent of Prospero's movingly eloquent farewell speech.<sup>145</sup> When I die my mental states will die with me, and if the human race goes extinct, all human perception and thought will disappear too. But I believe the physical and social world will go on after my death, and astronomers tell us that the cosmos will continue after the destruction of the earth in millions

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144 See Longuenesse (2005), 220.

145 Shakespeare, *The Tempest*, Act IV, Scene i.

of years' time. I think that Kant, in the 'empirical realist' strand of his thought, would agree.<sup>146</sup> What, then, was his point?

It is true that any representations we form about the world after our death, or after the extinction of humanity, must be expressible in terms of our concepts and beliefs, based in some ways or other on our perceptions. More broadly, all our conceptualized perceptions, beliefs and knowledge about *anything* — even our beliefs about the invisibly small, the cosmologically enormous, the deep past, and the remote future — depend on our powers of perception and conception. When Kant insists that we cannot know things 'as they are in themselves', I suggest we should understand that as saying that we know the world only *as* we represent it. But that does not mean that the world *consists* only of our representations. Could it be that Kant's thought sometimes slipped from the former to the latter, because of his intense focus on the processes involved in human perception?

Some of Kant's interpreters have been prey to the same temptation. In the last chapter of his long book, Waxman remarks that most of his discussion has been 'internal to representation' yet we have to assume that there is 'non-representational' reality. Such 'transcendental' reality exists both external to ourselves, and in the non-introspectable 'faculties' of our own minds (we do not know ourselves 'as we are in ourselves'). But at least once Waxman lets slip what Kant would surely have called 'empirical idealism':

... one of the cardinal tenets of Kant's philosophy: the thesis that objects *themselves in their own right*, are *representations* and not things in themselves. This claim is justifiable — indeed, has sense — only if objects conform a priori to the constitution of a *mind*, that is, are *its* products no less than the representations of them.<sup>147</sup>

In the first sentence here, I would propose replacing 'representations' by 'representeds', i.e., things represented. But I can see no such remedy

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146 For a spirited defence of Kant's 'empirical realism' see Collins (1999).

147 Waxman (1991), 275.

for the second sentence, which blatantly asserts that objects are products of our minds. I don't think that he, or Kant, needs to say that.<sup>148</sup>

In the closing section of a more recent long book,<sup>149</sup> Allison expresses a more guarded but still rather unclear view. He asserts the interconnection of 'transcendental internalism' and 'transcendental idealism' in Kant's thought. The internalism consists in considering

the relation between two species of representation (sensible intuitions and concepts) rather than between representations and a reality that exists *an sich*".

The idealism assumes that

the objects for which it [the synthetic unity of apperception] provides the normative ground for judgment are objects qua subject to the conditions of our cognition, I.e., epistemic conditions, rather than either objects as such or as they are in themselves.<sup>150</sup>

Perhaps too much hangs on these quaint words 'qua' and 'an sich'. Allow me to test these philosophical abstractions on a grossly literal example: a table (that paradigm of a material object) and the proposition that it is 1.3 metres long. To justify that judgment (to provide 'normative grounds' for it) someone has to see the table, go right up to it, and measure it. But it is *the table* (if you insist, the table 'as it is itself'), that thus meets 'the conditions of our cognition'. We make judgments about objects distinct from ourselves, that can exist unperceived, and no depth of Kantian analysis of our processes of perception and conception should distract us from that homely truth.<sup>151</sup>

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148 In his very last sentence, Waxman wrote that 'one is obliged to conclude that Kant's fundamental descriptive categories — 'representation' (entailing a 'represented') and 'thing in itself — lack any warrant'. That reminds me of Wittgenstein at the end of his *Tractatus* proposing to kick away the ladder by which he had climbed up.

149 Allison (2015) — an exhaustive (and exhausting) analysis of the whole development of Kant's Transcendental Deduction.

150 Allison (2015), 451.

151 See Essays 1, 3, 4, and 5 in Stevenson (2011), a brief survey in Stevenson (1998a), and more playfully, my dialogue (1998b).



## PART TWO



## CHAPTER SIX

### ACTIVITY/AGENCY/ACTION

In Chapter 1 we introduced the distinctions between sensory registration, perceptual representation, and perceptual judgment. Now In Part II I apply a related threefold division on the active side of mentality, to action and emotion. But my treatment of these topics will be briefer and sketchier than the extended discussion of perception in Part I.

In this chapter I draw again on the interdisciplinary work of Tyler Burge surveying the behaviour of a range of creatures, but I have a novel terminological suggestion; to use the three words ‘activity’, ‘agency’, and ‘action’ to mark the relevant natural kinds. My idea is to recruit these terms into a more disciplined role than they have in ordinary usage or in most philosophical and psychological theorizing, to make clear the principles behind these distinctions.

#### 6.1 ACTIVITY PROMPTED BY SENSORY REGISTRATION

Unlike plants literally rooted in the ground, even the lowest forms of animals can move around. Long ago Aristotle recognized this as one of two criteria differentiating animals from plants (the other was sense-perception — but I am distinguishing perceptual representation from mere sensory registration). By ‘movement’ we mean *self*-movement — not being carried along in the current, blown in the wind, or picked up by another creature. Self-movement is motion that originates in the creature itself. Sometimes there is an external stimulus, as when a mouse flees from a cat; but often the movement is spontaneous, as when a cat wakes up, stretches, and ambles around. Motion prompted by a stimulus often depends on an animal’s own state too (a lion will not bother to expend energy in a chase unless it is hungry). Animal

locomotion typically involves movements of legs, wings, or fins (or the pumping action of a jellyfish).

Even very simple organisms that barely count as animals in ordinary usage display self-moving activity. Amoebae ingest their food, they *do* something to take it into themselves from their environment, paramecia swim by the beating of their cilia; ticks crawl towards a heat source.<sup>152</sup> Such activity is called ‘orientation’ when it involves taking a position or direction in spatial relation to the surroundings. In biology, such reactions by freely motile organisms are called ‘taxes’ when the creature regularly moves in the direction of (or away from) a stimulus source, like a tick crawling towards warmth. Taxes are found in flagellate, single-cell eukaryotic organisms.<sup>153</sup> The direction of their response is enabled by two or more sensory receptors (an evolutionary antecedent of eyes in higher creatures). Various species are sensitive to different physical parameters: light, magnetic fields, chemical mixes, heat, electricity, mechanical contact, gravity, or sound.<sup>154</sup>

It is important to realize that this primitive ‘activity’ is based only on sensory registration, not perceptual representation. One-celled organisms like paramecia do not have sense-organs, they cannot represent anything; they do not *perceive* their goals, or threats, or routes of travel. Like the salmon we met in Chapter 1, they respond only to stimuli on their surfaces, they cannot *represent* anything at a distance from themselves: their activity is pre-perceptual. Aristotle distinguished animals from plants by two major criteria: their power of self-movement, and their perception of their environment,<sup>155</sup> but those criteria diverge in primitive organisms he did not know about.

This level of activity is not confined to such lowly creatures, however. It can be recognized in any creature that displays an inflexible,

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152 Burge (2010), 326–330. He calls this ‘primitive agency’, but to emphasize our threefold distinction I am suggesting we label it *activity*.

153 Burge (2010), 329.

154 Burge (2010), 330.

155 Aristotle, *De Anima* II.3.

automatic reaction to certain kinds of sensory stimulation (though it may perceptually represent other matters). Many insects emit pheromones that communicate availability for mating, and the explanation is that the recipients smell the biochemistry in the air, fly in the direction where it is strongest, and when they find a partner their copulatory instinct kicks in. Nestlings open their beaks as soon as they feel a vibration on their nest, and their parents insert food. But there may be an asymmetry here: the parents' dropping a morsel into a gaping mouth is presumably guided by sight (though they may fail to distinguish an alien cuckoo chick). In another species the roles are reversed: a gull chick will peck at the red spot on its parent's beak until rewarded by the disgorging of half-digested fish, but in this case it is the chick that has to aim at the right spot, whereas the parent's coughing up may be triggered only by the pecking. It is for ethologists to interpret such behaviours scientifically, often with the aid of experiments (they have demonstrated that gull chicks will peck at almost anything displaying a red spot).

There may be quite a fine line here between *activity* prompted only by sensory stimuli on the receptors and what I am proposing to label *agency*, guided by perceptual representation of something external (which may be only a few centimetres away, as in parent-chick interactions). There is also a fuzzy line between the agency of a creature as a whole, and the movements of its parts: catching prey obviously counts as agency, and so does munching it, but digestion does not (once something is swallowed, the diner has no control over its fate). Some mammals can control where they excrete: bears urinate to mark their territory and discourage competition for resources: these bodily functions count as agency if prompted by perception of suitable toilets.

Animals that engage in perception-guided agency often may display the lower level of sensory-prompted activity too. An elephant, horse, or cow will whisk its tail to brush flies off its hindquarters, but it does not perceptually represent the flies, its tail just reacts to tickles or bites on its skin. Most animals flinch at sudden loud noises, by fright, flight, or fight. Dogs respond to smells with remarkable discrimination, but it is not clear that they form perceptual representations of the *sources*

of smells, rather than blindly responding to olfactory traces. A male grouse will copulate with a stuffed grouse, a dead grouse, or another male grouse, if presented in the position of a receptive female (evolution has not found it necessary to make the response more selective). He has to see the posture and the species of his target, but his behavioral response seems to be stimulus-driven. In the males of many species, evolution has implanted a powerful urge to impregnate which is often indiscriminating. But in some species, courtship of individuals is needed for reproductive success: some birds establish and reinforce a pair bond by elaborate displays, or by aesthetic constructions in the case of bower birds.<sup>156</sup> The complexities of millennia of evolution challenge neat conceptualization, so there can be borderline cases in biology.

## 6.2 PERCEPTION-GUIDED AGENCY

Perception and perception-guided agency is widespread among many animals: that is obvious to everyday observation of creatures in our homes and on our farms, and the exotic species we see on television. A hungry lioness sees a lone zebra within charging distance, and goes in for the kill, her movements follow its swerves and avoid its kicks, until she gets close enough to trip it up and administer the fatal bite. Another hunt depends on intelligent cooperation with other members of the pride: some drive the prey towards others who hide ready to ambush. When a lioness sees a buffalo approaching, she picks up her cubs by the scruff of the neck and carries them to a place of safety. She may do the same if a new lion appears, for male lions have a humanly-repugnant habit of killing existing cubs so they can father offspring of their own. A lion has no concept of genetics or DNA, but he must have some way (presumably smell) of distinguishing his own progeny from others.

Perception-guided agency is not confined to what we dignify as higher animals, it is found in some arthropods such as the eight-eyed

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<sup>156</sup> Humans have to manage biology *and* culture — and ethics.

umping spider who preys on other spiders, navigating complex routes through tangles of branches in the jungle to get itself into position to leap onto its victim from several body-lengths away: it clearly has accurate spatial representations of routes, sub-routes, distances and targets. Those representations must be computed within its nervous system to activate its muscles and guide its jumps (the eight eyes have surely evolved for this). In ‘agency’ there is co-ordination between perception<sup>157</sup> and what is often called purposive action — though I am proposing the label ‘agency’. But that does not mean that a spider has any *concept* of its goal, it is just moved by its biological imperatives of survival and reproduction.

Non-human animals do not use language, understood as involving the use of repeatable elements in new sentential combinations, though some creatures emit communicative vocalizations, alarm calls, or songs; a few primates in captivity have been taught the beginnings of symbol combination. Animal ‘agency’ cannot be explained as automatic reaction to sensory stimuli or as mere associative learning, it can display what is tempting to call ‘intelligence’. Hunting skills in mammalian predators and dietary selection in primates are learnt from parents. Some practices are peculiar to cultural groups and are learnt by imitating con-specifics, such as tool-use, or the recently-discovered ‘fashion’ in some chimpanzees of sporting a blade of grass stuck in their ear (which does not *seem* to have anything to do with survival or reproduction). Innovations may be due to individual intelligence, luck, or some combination of the two.

In some creatures there is not merely the use of tools, but the *making* of tools. Chimps use twigs to ‘fish’ nutritious termites out of termite mounds, and they select and adapt twigs for that purpose, stripping off leaves to fashion a suitably straight fishing rod. Some crows have been observed to tweak a wire into a hook shape to retrieve a food reward out of a bottle. Here there is a double ‘hypothetical imperative’ — to get A

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157 Often involving not just vision, but hearing, smell or touch — or more exotic senses for electricity or magnetism.

you need B, and to get B you must do C — but does not mean animals can formulate such propositions.

### 6.3 ARISTOTLE AND TINBERGEN ON ANIMAL BEHAVIOUR

Let us now compare human reasons with the intelligence or ‘reasons’ of animals. Aristotle showed us the way two millennia ago with his conceptual framework traditionally known as the four causes (using the word ‘cause’ in a very broad sense).<sup>158</sup> He distinguished (1) the matter, (2) the form, (3) the proximate source of change, and (4) the ‘end’ or purpose. In his example, a cup made of silver, it is formed in the appropriate shape; it has been made by a silversmith; and its purpose is for drinking. In the same passage Aristotle mentioned the very different case of a man going for a walk for his health. The man is composed of matter (flesh and bones) composed into human form. Aristotle can say that the ‘efficient’ cause of his walking is the flexing of the muscles in the legs<sup>159</sup>, and the ‘final’ cause is the man’s desire to remain healthy and his belief that walking is conducive to health.

But what is the relation between the material causes and the reasons for action? Questions about reasons and causes thus arose very early in the history of philosophy. At one point Aristotle addressed the topic of the internal, efficient causes of animal behaviour:

The movement of animals is like that of automatic puppets, which are set moving when a small motion occurs ... for [animals] have functioning parts that are of the same kind: the sinews and the bones. ... When these are released and slackened the creature moves.<sup>160</sup>

He (or his research assistants) must have done some dissecting of animal bodies, and he here likened their internal processes to the mechanical operation of human artefacts such as puppets, though of

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158 Aristotle, *Physics*, II.3 and II.7.

159 Or the neuron firings in his brain (Aristotle didn’t know about those).

160 Aristotle, *De Motu Animalium*, 701b1.



course animals do not need the action of an external mover. We now know vastly more about physiology, but at this early stage Aristotle was roughly mapping out different levels of explanation: physiological quasi-mechanical causation, animal psychology of perceptions and desires, and human psychology of linguistically-expressible reasons for actions.

These time-worn Aristotelean concepts find modern application in biology. In the twentieth century, ethology emerged as the scientific study of animal behaviour in its natural environment. This had roots in the work of previous naturalists like Darwin who argued that animal behaviour (as well as anatomy) is a product of long-term evolutionary adaptation. Ethologists argued that many patterns of behaviour commonly described as instinctive appear spontaneously in all members of the species — or at least in all adults or young, males or females. In many birds the typical behaviour-patterns of feeding, courtship, nest-building, and feeding the young fit this description. During the rut, male deer clash antlers with each other to compete for access to the hinds. Male stickleback fish react aggressively to the distinctive coloration of another male on their territory.

Niko Tinbergen, one of the pioneering ethologists, distinguished four senses of the question ‘Why did that creature perform that behaviour?’<sup>161</sup>

1. What is the *internal physiological cause*? This can be answered in terms of muscle contractions, nerve impulses, hormonal secretions, and so on.
2. What in the *development* or *experience* of the individual prepared the way for that behaviour? The answer includes development in the womb, nutrition, and the normal growth in the species (e.g., the hormonal changes involved in reaching sexual maturity). But the individual experiences of the animal can also make a difference (e.g., a squirrel remembers where he has stored nuts, adult birdsong may depend on what the growing

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161 Tinbergen (1963).

chick has heard, tribes of primates have developed different tool uses).

3. What is the *function* of the behaviour? What is it for; what goal does it typically achieve for the individual or the species? The answer is often obvious, in feeding, predator avoidance, mating, or care of progeny. But in some cases, it is not so clear what the function of a behaviour is, although it may be quite distinctive in bodily movements: is it threat, courtship, defence against predators, or reinforcement of a bond? Repeated observations and experiments may enable ethologists to interpret how a behaviour pattern contributes to survival and reproduction.
4. What is the *evolutionary history* of the behaviour? Sometimes this is hard to distinguish from the previous question (the bodily movements involved in feeding have surely always had the same function). But in other cases, a distinctive behaviour pattern may have had a different function in the remote ancestors. The signaling postures of birds that now function as threats or courtship have been argued to result from 'ritualization' of what were once mere 'intention movements' preparatory to flight. Evolution can adapt behaviour to new uses in changing conditions. Natural selection never starts from scratch. It can only 'jerry-build' by selecting from whatever variations are already present in a population. We cannot press rewind buttons and observe the long-vanished past, but ethologists can sometimes make plausible inferences to a pathway of evolution, and thus give different answers to questions 3 and 4.

Explanations of these four kinds are perfectly compatible with each other. If there is such a thing as a complete explanation of a single animal movement, it would have to include the relevant facts at all four levels.<sup>162</sup> Tinbergen's four questions can be seen as adaptations of Aristotle's 'Four Causes'. Consider the chick pecking at the spot on

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162 Konner (2021) has recently proposed expanding Tinbergen's four levels of explanation to *nine* — all with application to human nature.

the adult's beak. We can say that the 'matter' of this movement is the physiology involved — the chick's optic nerve, brain, and muscles. Tinbergen's question 1 asks about the operation of this body machinery. The 'form' of the chick's movement is the reliable direction of its pecks to a red spot. This does not appear in Tinbergen's list, for he was presupposing that a repeated pattern of behaviour has already been identified. The proximate cause of each peck is the chick's perception of a red spot, and the muscle contractions that aim its peck there. Question 1 asks about this, and questions 2 and 4 ask about the less proximate causes in individual experience, and the distant causes in evolutionary history. The function of the pecking is to stimulate the disgorgement of food. That answers question 3, and we may incautiously say it is the 'reason' or 'purpose' why the chick pecks, though it cannot *give* any such reason.<sup>163</sup>

Is there any foothold for talk of reasons in the animal kingdom? We may say the *reason* stags fight is to get the opportunity to copulate, but the conceptually sanitized story is that the evolution of their ancestors has favoured those males best able to win the competition for reproductive success (question 3), so natural selection has provided that the testosterone in stags rises in the autumn (question 1). They perceive each other, and the hinds, they have *unconceptualized* present-tense perceptual 'beliefs' about the movements of others. They have desires to fight, sometimes to flee, to mate. But there is nothing in their behaviour to justify crediting them with beliefs or desires about the past or the future, or any intention beyond the immediate present. The genes of the dominant stag get passed on, but that is not his desire or intention.

There is more justification for talk of reasons for intelligent animal behaviour that is *learned* rather than instinctive, copied from others. or

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163 Kant discussed teleology at length in the second part of the *Critique of Judgment*. He presented an antinomy between mechanical and purposive explanation at 7:387, but resolved it in terms of regulative principles for the investigation of nature. We can explain both the physiology of the peacock's tail and its function in sexual selection, at different levels.

perhaps individually tried. Many young mammals are taught skills by their parents, and in cooperative hunts it is *as if* lions, wolves, or whales have a plan, and an assignment of roles within it. With social creatures who have a definite hierarchy, a 'political' element enters in: a practiced observer may conclude that the reason for a chimpanzee starting to groom another of lower rank was to form an alliance to depose the alpha male. With highly intelligent creature such as apes and parrots there may be individual inventiveness. Tinbergen's question 2 allowed that the past history of a particular animal can affect present behaviour, but there is a difference between a bird knowing its mate and the location of its nest, and the innovation of tool-use by individual primates. It is hard to see how the latter is explicable in terms of physiology and environment alone.

Do some animals act on reasons, then? In colloquial speech there is no strict limitation on talk of reasons. We are faced with a variety of behaviour amongst different species, and some of them begin to approach what we like to think of as our uniquely human intelligence and rationality. What we know now from the fossil record about the long prehistory of hominid evolution, with various lineages going extinct,<sup>164</sup> points in the same direction. Besides, reflection on the notorious phenomena of human irrationality and malignity should moderate self-congratulation on our special status. Such rationality as we manifest develops slowly in childhood, it can be ravaged by mental illness, and it can disappear in dementia.

#### 6.4 ACTIONS GUIDED BY REASONS

For my philosophical purposes I am proposing to reserve the term 'action' for the paradigm human cases in which someone can *say* what they are doing, state their *intention*, give their *reason* for their action. Of course, people differ in how articulate they are. Newborn infants cannot

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164 Quite recently in evolutionary terms, the Neanderthals.

give reasons, but it is not long before we recognize the beginnings of intentions, and children get to a stage where they can sometimes say what they are doing, and why. But in intoxication, stress, passion or aging, we may struggle to explain our actions, and at the extreme of mental illness or dementia our behaviour may lose the name of rational action. The ability to give reasons (like so much else in life) is prone to misdemeanour, mistake or misfortune, but anyone who can never, or no longer, explain what they are doing lacks, or has lost, one of the essentials of being a person.

In the next chapter I will enlarge on this central notion of rational action that has been so much discussed in philosophy, especially since Kant; my point at this stage is to contrast it both with sensorily-prompted 'activity' and with unconceptualized perception-guided 'agency'. But those two lower levels *coexist* in humans with intentional actions. Our unconceptualized agency gets incorporated into conceptualized cultural contexts. In much of our waking time we spatially navigate our surroundings. Rock climbing demands the strenuous use of all four limbs, attentively but non-conceptually guided by sight and touch. We exercise faster spatial skills in sport, and musical skills in singing and playing. We express affection by hugs and caresses. We can usually say something about what we are doing, but we cannot describe the detail of our every movement.

At the bottom level, even the most intellectual or spiritual person reacts to sensory stimulation. There are reflex reactions like the knee jerk, or the instant withdrawal of fingers from heat, which do not go through the central nervous system or the conscious mind (first the hand springs back, then we feel the pain). We flinch in response to an oncoming missile, a bang, a flash, or being grasped. We turn up our noses at certain odours, and our mouths water at cooking smells. We spit out something that tastes noxious, and we scratch at irritations or itches on our skin. This lowest reactive layer of our nature gets overlaid with perceptions and judgments, but it remains as long as we are alive and conscious.

The notion of human action has a less rational or conscious shadow in sub-intentional actions, movements that are below our attention and rationalization, but which *may* be brought under our control, if prompted

to stop and think. We cross and uncross our legs, we rub our ears, we tap a foot in time to music. William James drew our attention to examples such as fidgeting with a table-knife, or walking round the room while talking.<sup>165</sup> And there are 'actions' that border on the obsessive or the indecorous, like worrying with one's tongue at a troublesome tooth, twisting a strand of hair, or picking one's nose. If someone asks why we are doing it, we say we were not aware of it, and if the question is pressed, all we can say is 'for no reason'. Some actions are more intentional, though not aimed at any result beyond themselves, such as stroking a cat, casting a pebble into the sea, or saying 'Good morning'. For a surprising number of actions, the only reason available is 'I just felt like it' — if that counts as a reason at all.

#### 6.5 A PURELY EXPERIENTIAL CONCEPTION OF MENTALITY?

I have been pointing out something that many philosophers have tended to ignore, namely that our human conceptualized experience and action, involving our reasons for beliefs and actions, depends on the level of unconceptualized perception and 'agency', which in turn is based on the lower level of mere sensory registration and 'activity'. We are born at that lowest level, and we build on these stages in childhood without ever leaving them completely behind.

It is tempting to look back at infancy and animality from our supposedly exalted position of rationality, consciousness, and apparent freewill, and regard the human condition not just as the summit of individual and evolutionary progress, but as the very paradigm and definition of mentality rationality and morality. Much classic philosophy has exemplified this: think of the distinction between humans and animals made by Plato, Aristotle, Augustine, Aquinas, Descartes, Kant, and Sartre. However, some philosophers have bucked that trend: Hobbes, Hume and Schopenhauer.

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165 See James's old-fashioned *Principles of Psychology* (1890/1950), which contains an interesting discussion of the will in Vol.II, Chapter xxvi.

A recent defender of the logical independence of human *conscious* experience from its biological base is Galen Strawson's clever and relentless attack on what he calls 'neobehaviourism' — 'the view that mental life is linked to behaviour in such a way that reference to behaviour enters essentially and centrally into any adequate account of the nature of almost all, if not all, mental states and occurrences'.<sup>166</sup> He announces on the first page his very Cartesian belief that 'the only distinctively mental phenomena are the phenomena of conscious experience'. But this is not a straightforward factual claim, it exemplifies a *choice* how to use the word 'mental'. Others are happy (like myself) to extend the term to animal perceptions and emotions, and even to the unconscious processing that contributes to our human conscious states, though I balk at extending 'mentality' to creatures that only sensorily register. Vague ordinary usage of the terms 'mental' and 'consciousness' does not decide the philosophical and scientific issues.

Strawson (junior) does not dispute the facts about human maturational and evolutionary development, but his philosophical claim about the logical *independence* of perception and action, is expressed in an amusing fantasy:

The Weather Watchers are a race of sentient, intelligent creatures. They are distributed about the surface of their planet, rooted to the ground, profoundly interested in the local weather. They have sensations, thoughts, emotions, beliefs, desires. They possess a conception of an objective, spatial world. But they are constitutionally incapable of any sort of behaviour, as this is ordinarily understood. They lack the necessary physiology. Their mental lives have no other observable effects. They are not even disposed to behave in any way.<sup>167</sup>

But how could anyone ever know that such totally inactive beings enjoy conscious states? Strawson dismisses that epistemological question, and insists on the metaphysical possibility, quite independent of any possible evidence. But if that is his game, can we not equally

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166 G.Strawson (1994), Preface, p.xi.

167 G.Strawson (1994),

imagine spirits in the trees feeling sensations and emotions, computers with knowledge and malign desires, or angels watching over us without intervening? In such thought-experiments, it is not enough to put a few words together and affirm the relevant sentences with some degree of belief, trepidation, or piety. We have to explain what it would *be* for such descriptions to apply to something; metaphysical fantasy proves nothing in philosophy.

To his credit, Strawson takes on this obligation at some length. But one of his central claims, that the notion of desire is not linked to action or behaviour, is disputable. To be sure, we have some desires, hopes and wishes that we can do nothing about fulfilling: we can hope that the sun will shine on our garden party, or that the Italian rugby team will win one match, one desires one's spouse to recover from cancer, one may wish that someone assassinated Hitler, or that one hadn't made that hurtful remark. But it doesn't follow that one can desire any such things if one has *never* been capable of a great deal of action, perception and desire about much else. Perhaps if someone were to become irreversibly and completely paralyzed, they might still be able to perceive things and to feel desires and emotions — but could that apply if they had been immobile from birth? Could a permanently passive consciousness perceive material objects as such, could they have any conception of an objective world if they had never interacted with it? Could they develop concepts and make judgments in a 'private language' without ever interacting with other people?<sup>168</sup>

We attribute the possibility of perception and agency to creatures with sense-organs and central nervous systems, and we say they remain disposed to their characteristic behaviour when asleep, injured, or anaesthetized. But Strawson's weather watchers lack relevant physiology, he cuts off that criterion. What then would it *be* for them to have sensations, thoughts, emotions, beliefs, and desires? What could *constitute* their alleged perception and conception of states of the

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168 For an extended critique of G.Strawson's Weather Watchers see Christopher Lindsay's Ph.D. thesis (St.Andrews 2000).



weather, as distinct from sensorily registering heat or cold, rain or sun, on their surfaces? For Strawson it would be for them to ‘have’ the relevant conscious experiences, to *feel* sensations and emotions, to *entertain* thoughts and beliefs, to *feel* desires and corresponding pleasures or disappointments. We naively tend to assume that we all know ‘what it is like’ to have such experiences just by having them, so we are supposed to be able to imagine anything else (even inanimate objects?) having them. Galen Strawson is a striking example of this introspectionist, essentially private, tendency in philosophy of mind that still recurs. He seems to be more Cartesian than Descartes himself, who did not envisage consciousness in the absence of a functioning brain causally connected to sense-organs and muscles.<sup>169</sup> I admit (without shame) to being a neobehaviourist in the twin-track sense that the mentality of animals constitutively involves their dispositions to perception-guided agency, and the mental life of humans constitutively involves our capacities for reason-guided action.

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169 Except perhaps in a disembodied soul after death — but the coherence of that story is another story.



## CHAPTER SEVEN

# RECONSTRUCTING KANT ON ACTION

### 7.1 KANT AND LIVING ACTIVITY

What light does our threefold categorization of activity, agency and action throw upon Kant's philosophy? An immediate reaction might be that Kant would surely find the activities of such lowly organisms as amoebae and ticks beneath his notice.<sup>170</sup> But the Kant who wrote about the cosmos, earthquakes, fire, winds, mental illness, the races of humankind, and 'living forces',<sup>171</sup> took an interest in everything discussed in his day, so it would be foolhardy to rule anything out as irrelevant to his thought.

In his pre-critical work *Dreams of a Spirit-Seer* of 1766 Kant remarked that 'the undisputed characteristic mark of life ... is free movement, which show us that it has originated from the power of the will (Willkur)'.<sup>172</sup> That would commit him to saying that the activity of one-celled organisms like amoebae (which he presumably knew about from the eighteenth-century biologists he refers to at 2:330–1) shows not just life, but 'will'. However, that remark comes in the middle of that uncharacteristically playful work, so perhaps we should not hold him strictly to it. (He added the obvious Aristotelean qualification that plants lack the *external* marks of life, in that they do not manifest free-moving activity.) In *Dreams* Kant also wrote that if one considers the activity of living beings 'one will find oneself persuaded, if not with the distinctness of a demonstration, then at least with the anticipation of a not untutored understanding, of the existence of immaterial beings' (2:239). But that

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170 Perhaps he encountered ticks in his early years as a tutor in noble country houses.

171 Kant's first published work was *Thoughts on the True Estimation of the Living Forces* (1749), but according to Manfred Kuehn's biography it was an essay in Newtonian/Leibnizian mechanics, not specifically about living things, despite its title (2001, 86–95).

172 Kant (1766/1992), 2.330.

expressed his sceptical dalliance with Swedenborg's conception of a spirit-world, which did not survive into his critical period.

In the above-quoted remark on freedom of movement of living beings Kant recognized that there is a primitive level of 'freedom' of activity that is enjoyed by most creatures most of the time, even very simple organisms such as amoebae, or ticks. They move spontaneously, they are *self-propelled* by impulses arising within them, and their sensory registrations. But an amoeba or a tick caught in a test-tube, or pinned to a laboratory slide, is *not* free to go through its usual motions. This level of freedom was immortalized by Hobbes and Hume as the absence of constraint. Constraints can include internal defects such as injury, chemical imbalance, or a faulty gene.

## 7.2 KANT ON ANIMAL AGENCY

When Kant refers to 'animals', he (like most of us) usually had in mind creatures that perceptually *represent* features of their environment, and rely on their perceptions to guide their agency.<sup>173</sup> He drew a very firm distinction between animal agency and human actions guided by judgment and reason. In 1762 he noted that an ox knows its own stall by its door, and that a dog reacts to the smell of roast meat with greater enthusiasm than to the smell of bread, but he insisted that though such creatures can make some discriminations, they do not *recognize* the differences. Their behaviour differs depending on what they perceive, but Kant says they cannot form *distinct concepts*, and cannot make *judgments* of the form A is not B.<sup>174</sup> In a similar passage in 1764 he said 'all we perceive in the case of an animal is that it is impelled to perform different actions by different sensations'<sup>175</sup> — but that wording

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173 There is a full list of Kant's many scattered mentions of animals in note 1 of Ina Goy's paper in Callanan and Allais (2020).

174 *The False Subtlety of the Four Syllogistic Figures*, in Kant (1762/1992), 2:59–60.

175 *Inquiry concerning the Distinctness of the Principles of Natural Theology and Morals*, in Kant (1764/1992), 2:285.

is consistent with mere sensory registration rather than perceptual representation. In the earlier work he offered his ‘present opinion’ that the essence of beings endowed with ‘the mysterious power which makes judging possible’, which animals lack, is the faculty of inner sense, for ‘making one’s own representations the objects of one’s thought’. That partially prefigures his important critical statement that the *I think* must be able to accompany all my representations (B131); but by the time he wrote that Kant had distinguished apperception from inner sense.

In the *Critique of Pure Reason* Kant marked the animal/human distinction in terms of the ‘free power of choice’ he ascribes to us as rational beings:

Freedom in the practical sense is the independence of the power of choice (*Willkur*) from necessitation by impulses of sensibility. For a power of choice is sensible insofar as it is pathologically affected (through moving causes of sensibility); it is called an animal power of choice (*arbitrium brutum*) if it can be pathologically necessitated. The human power of choice is indeed an *arbitrium sensitivum*, yet not *brutum* but *liberum*, because sensibility does not render an action necessary, but in the human being there is a faculty of determining oneself from oneself, independently of necessitation by sensible impulses. (1781/1998, A534/B562)

I presume that such talk of ‘impulses’ includes not only sensory stimulations and perceptual representations (some of which may not impel to any particular reaction), but also biologically-based *desires*, connected (directly or indirectly) with survival and reproduction. For social animals that includes tendencies to co-operation, competition or power-seeking, for instance in chimpanzees. Humans have their own biologically-based desires, but Kant’s claim was that we uniquely have free choices when and how to act to them.

However, the animal/human distinction and the concept of ‘free choice’ may not be as clear as Kant assumed.<sup>176</sup> Higher animals can be subject to *competing* desires. At what point does a pursuing but tiring

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176 See note 8 of Colin McLear’s paper in Callanan and Allais (2020), and further references there.

cheetah ‘decide’ to give up the chase? When a herd of zebras approach a river, they hesitate and fidget about, none of them wants to be the first to drink, for they seem to know that crocodiles lurk in the water. What tends to happen is that they coordinate their movements so that they all start to drink together, which reduces the chance of any one of them being grabbed for reptilian lunch: in this case, mediation between thirst and fear is achieved in a social way. Conflicting desires are manifest in fight-or-flight situations between competing males, in stags, seals, and some insects. In such confrontations, the impulses for survival and for reproduction can be finely balanced, and individuals make what can be described as behavioural choices. William James remarked:

Nature implants contrary impulses in many classes of things, and leaves it to slight alterations in the conditions of the individual case to decide which impulse will carry the day. ... the animal that exhibits [such instinctive impulses] loses the ‘instinctive’ demeanour and appears to lead a life of hesitation and choice, an intellectual life.<sup>177</sup>

But are these apparent choices ‘pathologically necessitated’ (as Kant put it) by combinations of internal states and external impacts? Animals with perceptual representations and multiple motivations have complex behavioural repertoires. They have the primitive kind of freedom of *activity* (a bird can usually ‘choose’ which twig to flit to next), but they have an extra freedom of *agency*, which is most clearly manifested when their motives conflict, as in situations of feed-or-flee, to fight or not to fight, to mate or not to mate. Perhaps biologists can identify predetermining combinations of sensory stimulations and physiological mechanisms in lower species, but it seems to be an article of unproven faith (which Kant seems to have shared) that such determinism applies in every instance of apparent ‘choice’ by perceiving, intelligent non-human animals.

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<sup>177</sup> James (1890/1950), II, 392–3.

### 7.3 KANT ON HUMAN FREEDOM OF CHOICE

On the human side, do we always have ‘free’ choice? (according to some determinist conceptions, we never do.) Setting out to run a marathon would surely be an example, and keeping going when tiredness sets in would seem free too, though encouraged by shouts from spectators. But when a struggling runner eventually collapses in a heap, is that a freely chosen action, or is it determined by his bodily fatigue? Sexual intercourse is supposed to be a matter of consent, but how far is orgasm under one’s control? If one is provoked by someone’s persistently annoying manner, how long can one last before losing one’s temper — and is that moment chosen? The demarcation between free choice and what is determined by ‘impulses of sensibility’ is not as clear as Kant assumed. Some human action involves our animal nature, but much is influenced by culture and fashion: consider the obedience of the trained soldier, the self-denial of the religious devotee, or the taking of selfies with celebrities. Genuinely free choice may be rarer than Kant assumed; indeed he once remarked that in many cases the degree of freedom in a human being is scarcely greater than that of an animal.<sup>178</sup>

In the Canon of the *Critique* Kant repeated his distinction between *arbitrium brutum* and *arbitrium liberum*, and added:

Practical freedom can be proved through experience. For it is not merely that which stimulates the senses, i.e., immediately affects them, that determines human choice, but we have a capacity to overcome impressions on our sensory faculty of desire by representations of that which is useful or injurious even in a more remote way; but these considerations about that which in regard to our whole situation is desirable, i.e., good and useful, depend on reason. (A802/B830)

He there recognized a notion of ‘practical freedom’ that is manifested in prudential behaviour. This involves *self-interested* rationality, the realization of what one needs (and in *that* sense ‘ought’) to do for one’s

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178 Herder’s lecture notes in 1762–4, quoted by Allison (2020), 82 (28:99–100).

own longer-term good. We exercise prudence when we moderate our diet, go to an exercise class, or invest in a pension fund. We go beyond animal mentality when we overcome our *present* inclinations, though tempted by short-term pleasure or the avoidance of pain or effort. This is a crucial part of human nature: anyone who is incapable of it, such as infants, the mentally ill, and the senile, lacks a capacity that we expect adult human beings to have.

Various recent philosophers have endorsed at least this conception of freedom of choice. Jay Wallace has presented a ‘volitionist’ as against a ‘hydraulic’ philosophy of action: instead of our strongest desires determining our actions in a quasi-mechanical way that leaves us with no real choice,<sup>179</sup> our intentions, decisions and choices are ‘things we do, primitive examples of the phenomenon of agency itself’.<sup>180</sup> Brian O’Shaughnessy offered a more complex analysis in his monumental two-volume analysis of the will, ending with three chapters on the antecedents of action, in which he distinguished desiring, deciding, choosing, intending, and trying, as stages leading up to acting.<sup>181</sup> Thomas Pink summarized his conception of freedom of action by listing:

1. Desiring to move one’s hand
2. Judging that it is desirable to move one’s hand
3. Deciding to move one’s hand
4. Trying to move one’s hand
5. Moving one’s hand.<sup>182</sup>

But can such fine distinctions be drawn in every case of human action? Here is a playful example: one wakes up to find one’s hand trapped underneath one’s sleeping partner, it is getting uncomfortably tingly, so one has a desire to remove it, but one is reluctant to wake her.

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179 Except perhaps to take cold showers or drugs to try to reduce or eliminate our unwanted desires.

180 Wallace (1999).

181 O’Shaughnessy (2008).

182 Pink (2002).



After some sleepy thought, one may judge that it will be best, all things considered, to relieve one's hand from the pressure, without having yet decided to try. Eventually one forms a definite intention to do the deed, one waits for a suitable moment, and one tries to withdraw the hand — only to find that she is lying on it so heavily that one can't get it out from underneath her! All that seems possible, but this Joycean mini-drama is hardly a general picture of the human condition: very few of our actions can be subject to such minute analysis. In fact, for most of our actions there is no forethought, self-consciousness, weighing of reasons, or agonizing: we act spontaneously, as when we wave to a friend, offer a handshake, and chat. Of course, *some* actions are planned in detail, perhaps even rehearsed — a surgical operation, a financial takeover, or a military campaign — but these are exceptions, not the rule.

Some of our actions are not motivated by self-interest, and even go against it: a few hardy souls (and bodies) may go on hunger strike, most of us can refrain from sexual activity when not appropriate, and monastic vocations involve commitment to chastity and obedience. And we care especially about our spouse, our children, our parents, our friends. These partial and emotional attitudes are limited to those we are biologically related to, or intimately know. Kant was intensely preoccupied with the distinction between self-interest and impartial moral motivation, but he often seems to overlook that not all human action falls into that binary dichotomy: I may care about the conservation of the Cairngorm mountains, the growth of my begonias, or the success of a football club.

Kant rejected the 'liberty of indifference' exemplified in the medieval fable of the rational ass who starved because it lacked any reason to decide between two equidistant bundles of hay. Allison says Kant could not accept it because he remained wedded to the Principle of Sufficient Reason,<sup>183</sup> which sounds like a rationalist hangover from his pre-critical years. Common sense suggests we have liberty of indifference about what shirt to wear, which shoe to put on first, which bottle to take from several on the supermarket shelf, which of two funds to invest in. This

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183 Allison (2020), 347, 464.

may not be a very exalted kind of freedom, but we surely exercise it every day; to linger in indecision looking for reasons in such matters might be worthy of Freudian psycho-analysis. Kant's own example of rising from his chair 'without the necessarily determining influence of natural causes' (A450/B478) is a case in point.

Kant maintained that a stronger notion of freedom that he called 'autonomy' characterizes actions in which one forgoes self-interest for the sake of a moral principle. At the extreme, one is free to sacrifice even life itself: in the *Critique of Practical Reason* he gave the example of being threatened with death unless one gives false testimony against an innocent victim. We do not often face such severe dilemmas, but terrorists have been known to take a family hostage and threaten them unless one opens a safe or delivers a bomb. I do not dispute for a moment the depth of Kant's analysis of moral motivation, I am just pointing out how much else there is in human motivation and action beyond self-interest and morality.

#### 7.4 PSYCHOLOGICAL DETERMINISM?

Kant felt he had work to do, to reconcile his firm belief in human freedom of choice with the determinism that he had argued (in the Second Analogy in the first *Critique*) is a necessary condition of our conceptualized experience. Many thinkers are still tempted to take the determinist line, and say that although we *seem* to ourselves to make free choices (prudential, indifferent, ethical, aesthetic, political or religious), there must in every case be *some* set of preceding factors that make each one of our actions causally necessary in the circumstances. Kant took it for granted that determinism applies to human beings at *some* level:

The human being is one of the appearances of the world of sense, and to that extent also one of the natural causes whose causality must stand under empirical laws. As such he must accordingly also have an empirical character, just like all natural things. (A546/B574)

But what did he mean by 'natural causes'? Was he thinking of our bodies, which count as 'appearances in the world of sense' (perceptible

material things)? Human bodies are subject to gravity, impacts, and heat, and have intricate internal neurophysiological and biochemical processes. However, I think Kant was primarily thinking of the causation of human actions by *mental* states, involving the agent's conceptualized beliefs and desires, i.e., her reasons:

Thus every human being has an empirical character for his power of choice ... all the actions of the human being are determined in accord with the order of nature by his empirical character and the other cooperating causes; and if we could investigate all the appearances of his power of choice down to their basis, there would be no human action that we could not predict with certainty; and recognize as necessary given its preceding conditions. (A549–550/B577–8)

This expresses a *psychological* form of determinism, in which every action has its necessitating causes in the grounds for the agent's choice, i.e., her reasons, and her impulses, affects and passions (to be discussed in Chapter 9). The agent's 'empirical character' is manifested in her choices and the reasons she can give for them. Kant continued:

Thus in regard to this empirical character there is no freedom, and according to this character we can consider the human being solely by *observing*, and, as happens in anthropology, by trying to investigate the moving causes of his actions physiologically. (A550/B578, with Kant's emphasis)

I suggest that by the word '*physiologisch*' here Kant had in mind anything subject to psychological causes, as discussed in his *Anthropology*. He emphatically reaffirmed psychological determinism in the second *Critique*:

If it were possible for us to have such deep insight into a human being's cast of mind, as shown by inner as well as outer actions, that we would know every incentive to action, even the smallest, as well as the external occasions affecting them, we could calculate a human being's conduct for the future with as much certainty as a lunar or solar eclipse and could nevertheless maintain that the human being's conduct is free. (5:99)

But should we accept this? Is there really any prospect for 'investigating all the appearances of anyone's power of choice down

to their basis', and thus predicting and explaining their actions with certainty? I have already expressed doubts about determinism in the behaviour of higher animals. In many situations, our human reasons for or against action are finely balanced. Can we predict what anyone will do when presented with a restaurant menu, a charity-collector's rattling tin, or a choice between insurance companies? We are subject to manifold *influences* from the physical and social world, but there is no *a priori* proof that they must amount to a determining precondition in every case. I submit that psychological determinism is an idealization that goes beyond anything we have reason to believe, despite the progress of psychology and cognitive science since Kant's day.<sup>184</sup> But that does not rule out *probabilistic* generalizations of common sense or medical science, e.g., that an excess of hormones or testosterone or alcohol tends to cause moodiness, aggression, or lowered inhibition, with outbursts of vivid verbal content.

Kant doggedly insisted that we do have freedom of will and can be held morally responsible for our choices and actions, so he struggled to defuse the overarching tension between Nature and Freedom in his critical philosophy. In the Preface to the second *Critique* he declared that 'the concept of freedom ... constitutes the *keystone* of the whole structure of a system of pure reason' (5:3–4). In his resolution of the Third Antinomy in the first *Critique* he appealed to his distinction between appearances and things in themselves:

If that which must be regarded as appearance in the world of sense has in itself a faculty which is not an object of intuition through which it can be the cause of appearances then one can consider the causality of this being in two aspects, as intelligible in its action as a thing in itself, and as sensible in the effects of that action as an appearance in the world of sense. Of the faculty of such a subject we would accordingly form an empirical and the same time an intellectual concept of its causality, both of which apply to one and the same effect. (A538/B566, with Kant's emphases)

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184 I have argued this at more length in Essay 9 in Stevenson (2011), and with less Kantian detail in Stevenson (2015).

Interpreted metaphysically, the idea is that we exist in two different worlds: as appearances or phenomena we are determined, but as ‘things in ourselves’ or noumena we are free.<sup>185</sup> In Chapter III of the *Groundwork of the Metaphysic of Morals* Kant offered another gloss on our supposed membership in two worlds:

A rational being counts himself, as intelligence, as belonging to the world of understanding ... On the other side he is conscious of himself as a part of the world of sense, in which his actions are found as mere appearances ... those actions as belonging to the world of sense must be regarded as determined by other appearances, namely desires and inclinations. (*Groundwork* 4:453)

Kant added that *reason* is ‘pure self-activity, raised even above the understanding’, because *understanding*, although also self-active, only ‘brings sensible impressions under rules’. He thus distinguished two levels of self-activity:

reason ... shows in what we call “ideas” a spontaneity so pure that it goes far beyond anything that sensibility can ever afford it, and proves its highest occupation in distinguishing the world of sense and the world of understanding from each other and thereby marking out limits for the understanding itself. (*Groundwork* 4:452)

But if we hold Kant to the distinction between sensibility, understanding and reason that structures the first *Critique*, surely he should have said there are *three* standpoints from which we can regard ourselves, as in his threefold distinction in *Religion* 6:26:

1. As animals with unconceptualized desires such as hunger, thirst, shelter, sex, and the scratching of itches.
2. As rational creatures with knowledge of the physical and social world, and how to act in it for our own good. Our prudential actions involve conceptualized understanding.

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185 Richard McCarty (2009) gives Kant’s two-world combination of psychological determinism with noumenal freedom as good a defence as it is likely to get, but to my mind it remains subject to the classic difficulty of making sense of interaction between two such ‘worlds’.

3. As persons, we recognize the validity of moral reasons. We are members of 'a kingdom of end', including all persons under universal moral laws, with similar rights and duties.

When Kant talks of regarding oneself as intelligence 'belonging to the world of understanding', he presumably meant 2 and 3, as opposed to 1. But when he makes his contrast between morality and prudence, categorical or hypothetical imperatives, he is distinguishing 3 from 1 and 2. This is a crucial structural ambiguity.<sup>186</sup>

In animal fight-or-flight situations the obvious thing to say is that the one with the strongest desire wins (though he who wins today may lose next time). But if the strongest desire at the time is *by definition* the one on which the creature acted, then it is trivially analytic that the strongest desire always leads to action. To get an empirically testable explanation of behaviour we would need some way of measuring the strengths of desires independent of the actual result. That may remind us of the composition of forces in Newtonian mechanics, when there is a mathematical way of calculating the resultant force, and movement. For human motives there is a formula for calculating 'subjective utilities', given the utility someone attaches to outcomes and the degrees of confidence they have that an action will have certain effects. This may be useful for economists, but money is not the only value that governs human choices: we value many incommensurable things such as health, friendships, sex, children, mountaineering, music, and fame, so I see no prospect of measuring the strengths of anyone's desires on a common numerical scale.

As Kant sagely acknowledged, our motives are often mixed, and we are sometimes unclear about the reasons for our actions. In the first *Critique* declared that 'the real morality of actions (their merit and guilt), even that of our own conduct, remains entirely hidden from us' (A551/B579note). In the *Groundwork* he wrote:

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186 I surveyed a range of ambiguities in Kant's appearance/thing in itself distinction in Stevenson (1998a).

It is indeed sometimes the case that with the keenest self-examination we find nothing besides the moral ground of duty that could have been powerful enough to move us to this or that good action and to so great a sacrifice; but from this it cannot be inferred with certainty that no covert impulse of self-love, under the mere pretence of that idea, was not actually the determining cause of the will ... (4:407)

In his last work on moral philosophy Kant wrote that ‘the depths (the abyss) of one’s heart ... are quite difficult to fathom’ (*The Metaphysics of Morals* 6:441). In the first *Critique* he acknowledged that determinism is a regulative maxim rather than a constitutive principle:

The application of concepts of the understanding to the schema of reason is not likewise a cognition of the object itself ... but only a rule or principle of the systematic unity of all use of the understanding. ... the principle of pure reason will also have objective reality in regard to this object, yet not so as to *determine* something in it, but only to indicated the procedure in accordance with which the empirical and determinate use of the understanding in experience can be brought into thoroughgoing agreement with itself, by bringing it *as far as possible* into connection with the principle of thoroughgoing unity, and from that it is derived.

(A665–6/B693–4, with Kant’s emphases)<sup>187</sup>

## 7.5 THE INCORPORATION THESIS

Kant made much of the fact that we can formulate rules or policies for action that he calls ‘maxims’.<sup>188</sup> (If we are consistent, we *follow* our own resolutions, but that is by no means guaranteed, as we all know.) On the first page of the second *Critique* he defined maxims as practical principles containing a general determination of the will, they take the

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187 For more on the distinction between constitutive and regulative principles see A671–702/B699–730.

188 *Groundwork*, 4:400–1 note, 4:4201 note, 4:425. According to Manfred Kuhn’s biography (2001), Kant underwent a mid-life crisis around the age of forty, after which he left behind his elegant socializing and committed himself to maxims of single-minded devotion to philosophy.

form ‘In any situation of type F, I will do something of type A’. A maxim can be *subjective*, only meant for the individual, but for Kant *moral* principles are objective, holding impartially for everyone. His examples of subjective maxims include: to commit suicide if living longer threatens more pain than pleasure; not to help others in hardship;<sup>189</sup> to let no insult pass unavenged; and to increase one’s wealth by every safe means.<sup>190</sup> He rejects those maxims as immoral (though they are perfectly intelligible, and are followed by many), because they are inconsistent with the categorical imperative to requires one’s maxims to comply with the test of universalizability.

But does *all* human action involve commitment to a maxim? In his late work on *Religion* Kant seemed to affirm this:

Freedom of the power of choice (*Willkur*) has the characteristic, entirely peculiar to it, that it cannot be determined to action through any incentive *except so far as the human being has incorporated it into his maxim* (has made it into a universal rule for himself, according to which he wills to conduct himself); only in this way can an incentive, whatever it may be, coexist with the absolute spontaneity of the power of choice (of freedom).<sup>191</sup>

Allison has dubbed this the ‘Incorporation Thesis’ and endorsed it as Kant’s central insight about human rational agency. He says ‘the intentional actions of a rational agent are never merely the causal consequences of the agent’s antecedent psychological state ... but require, as necessary condition, an act of spontaneity’.<sup>192</sup> Elsewhere Allison writes ‘inclinations or desires do not of themselves constitute a sufficient reason to act but do so only in so far as they are ‘taken up‘ or ‘incorporated‘ into a maxim by the agent’.<sup>193</sup> In his most recent and most comprehensive treatment he defends the Incorporation Thesis again.<sup>194</sup>

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189 *Groundwork* 4:422, 4:423.

190 *Critique of Practical Reason*, 5:19, 5:27.

191 *Religion* 6:23–4.

192 Allison (1990), 5; see also 40, 126, 138, 249, 268.

193 Allison (1996), xviii; see also 109, 113, 118–9, 126, 130–4, 139–142.

194 Allison (2020), 277–8, 429, 489.



But does *every* human action have a maxim? To be sure, we sometimes formulate maxims or policies for ourselves, whether prudential, aesthetic, moral, or political. One can make it a rule never to go out without checking one has the key, always to vote for candidates who stand for tax cuts, or never to wear a combination of pink and green. Explicit rule-setting is typical of institutions such as Her Majesty's Revenue and Customs, and Health and Safety. But it is an over-intellectualized picture of humanity to say that every action involves a general principle, or that whenever asked we could come up with a maxim behind our choices of what to eat, who to flirt with, how to respond to a rude remark. The only answer to the question 'Why did you do that?' is often 'I just felt like it'.

Of course, that is not always an *acceptable* answer: 'Why did you eat *two* slices of chocolate cake?', 'Why did you punch him in the face?', 'Why did you leave your litter on the mountain?' Nobody, least of all Kant, accepts that we may do whatever we feel like. With animals, there is no 'should not', except in *our* eyes when we train our dogs or horses not to behave in certain way. With young children, there are grey areas (or *colourful* areas?), in which we train them, cajole them, or love them into responsibility. For adult humans, the statement 'I just felt like it' may be defended by saying 'I was not aware of any reason why I shouldn't' — but that rarely needs to be made explicit. With that qualification, human spontaneity including liberty of indifference is permissible (you may be relieved to know).

Kant made 'incorporation' sound like a dateable mental act. Sartre trenchantly asserted our fundamental freedom, and favoured 'pure' or 'purifying' reflection as the key to authentic human existence, rather than the 'bad faith' in which we spend so much of our lives. For him, our usual deliberations involve only 'impure' reflection about the choice of means to ends, but there is a more fundamental kind of free choice that involves pure reflection about what ends to adopt.<sup>195</sup> Sartre's picture of the ideal human life is, like Kant's, a very self-conscious and intellectual

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195 See Stevenson (2015).

one. We *can* occasionally reflect on the purpose or purposes of our lives, and very rarely, someone may decide on a fundamental change of values, in what Sartre calls a ‘radical conversion’, like the ‘change of heart’ Kant wrote of in Part One of the *Religion*.

Obviously, we cannot foresee every situation that may arise. But should we try to *approximate* to the ideal of rational preparedness for anything? That too is surely unnecessary, for provided we respect Kantian moral maxims, and have educated dispositions to virtue of the kind that Aristotle recognized as so important, we can be spontaneous (which does not mean *contrary* to principle). Perhaps with awareness of these points, Allison has qualified his statements of the Incorporation Thesis. In one place he says inclinations do not determine the will in a brutally causal manner, but only by ‘being incorporated into a maxim, that is, by being taken by the agent, *at least implicitly*, as sufficient reasons for action’.<sup>196</sup> But what can it mean to take something ‘implicitly’ as a reason? When asked ‘Why did you do that?’, one may offer a reason explicitly, but one may be unwilling to divulge one’s reasons, and might even lie about them. Moreover, people are not always clear themselves about the reasons for what they do: witness examples from the therapist, the confessional, and fiction.

In a recent highly analytical discussion, Peter Herissone-Kelly proposes that ‘possession of a maxim of action consists in an agent’s being disposed to take the obtaining of a situation of a particular type to be a reason for her to  $\Phi$ , and her thereby being disposed to  $\Phi$  in situations of that type’.<sup>197</sup> A verbal quibble is that the term ‘possession’ does not sound right for maxims, for they are not things we can purchase or bequeath, ‘being committed to’ a maxim sounds better. But how voluntary can such commitment or ‘incorporation’ be? Is a *mere disposition* to take something as a reason enough? And what does such ‘taking’ amount to? Consider someone who is nervous about dogs and avoids any dog even of diminutive size. If you ask her why, she says

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196 Allison (1990), 126 with my emphasis.

197 Herissone-Kelly (2018).

'Oh, I had a traumatic experience with a dog when I was little'. Is that a cause or a reason, or both? Does she *take* it as a reason? — she may agree it is not a sufficient reason for fear of *all* dogs, but she still takes care to avoid them. There is ambiguity about what counts as taking as a reason.

We are rational animals, but we are not completely rational all the time. Our animal nature affects (or infects?) the rational side of nature, for better or for worse. Allison talks of the Incorporation Thesis '*functioning regulatively* in the conception of ourselves as rational agents with an empirical character'.<sup>198</sup> But that surely does not mean we should always *try* to justify our actions. The ideal of having a maxim for every action is neither possible nor attractive, and I do not think Kant needs to be committed to it.<sup>199</sup>

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198 Allison (1990), 138 with my emphasis, see also 249.

199 For a deeper treatment of Kant's theory of embodied rational agency in a biological context see Ch.8 of Robert Hanna (2006). I hope my modest essay is compatible with that.



## CHAPTER EIGHT

### IMPULSES, AFFECTS, EMOTIONS

#### 8.1. TEN KINDS OF FEELING

The word ‘feeling’ has promiscuous application to many different kinds of mental state or experience, and the term ‘emotion’ also has its ambiguities. Anthony Kenny devoted a subtle chapter to the variety of feelings in his *Action, Emotion and Will*.<sup>200</sup> The neurologist Antonio Damasio has said that ‘deciding what constitutes an emotion is not an easy task, and once you survey the whole range of possible phenomena, one does wonder if any sensible definition of emotion can be formulated, and if a single term remains useful to describe all these states’.<sup>201</sup> Ronald de Sousa dramatically remarked that ‘emotions seem to overstep a threshold of messiness beyond which even the most masochistic of theoreticians tend to lose heart’.<sup>202</sup> But at risk of masochism I am going to try to discern some structure underneath the mess.

Here are some of the ways in which an English sentence can begin with ‘I feel ...’ or ‘She feels ...’ (other languages have their own idiosyncrasies):

Firstly, there are bodily sensations, such as pains, tickles, impacts, the coldness of the wind, the heat from a fire, the glare of direct sunlight, the clatter of a helicopter, smells and tastes, hunger and thirst, indigestion, nausea, erotic arousals and pleasures.

Secondly, there are more generalized bodily feelings not confined to one sense-organ or body part, such as tiredness, overheating, sweating, shivering, exhilaration in running, tennis, or children’s skipping.

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200 Kenny (1963).

201 Damasio (2000), 340, note 9.

202 The opening of De Sousa’s article on Emotion in Guttenplan (1994).

Thirdly, there are phobias of spiders and snakes, disgust at bodily fluids, apprehension at some facial expressions, tones of voice, or animal aggression. These reactions are typically unconceptualized, manifest in many mammals and children, and they seem to be innate, though we learn relevant words.

Fourthly, we sometimes experience objectless moods such as anxiety, irritability, depression, elation, or even mania. We may not be aware that we are experiencing such moods, but we sometimes express them in words.

Fifthly, there are emotions directed to particular individuals: parental care, love of parent, romantic love or erotic obsession (which can go wrong), married love (which may go through sour periods). Some similar attitudes may be directed to national leaders and celebrities. We can usually name the objects of such emotions, but there are *unconceptualized* relations between mammal mothers and their young, pair-bonded birds who ritually greet each other, chimpanzees who fear their alpha male, dogs obeying their masters.

Sixthly, many human emotions are directed to an actual or possible state of affairs, which may be enjoyed, deplored, hoped for or feared. These range from the domestic (my computer is malfunctioning again), to the social (our team has won the cup), or the worldwide (climate change is destroying our planet). Some emotions are focused on *past* events: regret, embarrassment or pride in one's own actions, admiration, gratitude or resentment about what someone else has done.

Seventhly, we sometimes feel moral obligation, especially when the required action conflicts with our own inclination, and we may feel correspondingly guilty about something we have done, or failed to do. (Kant put great importance on the peculiarly moral feeling of respect (*Achtung*) for the moral law, quite distinct from all other feelings.)<sup>203</sup> We can feel indignation or admiration for someone, not merely for particular actions, but for the spirit in which they have acted, or the character thereby displayed,

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203 *Groundwork* 4:400ff, and the *Critique of Practical Reason* 5:72ff.

Eighthly, there are feelings for beauty. We may appreciate flowers or birdsong, or be entranced by a gorgeous sunset. We can be exhilarated by the rhythms of jazz, or rock, or Beethoven's *7th Symphony*, and we can be moved (perhaps to tears) by Ella Fitzgerald singing the blues, a Schubert song, or Mahler's *Adagietto*.

Ninthly, there is our experience of the sublime, of something that may not be conventionally beautiful, but impresses us and moves us by its majesty and power, such as the ocean in storm, Shakespeare's *Lear* or Stravinsky's *Rite of Spring*. Kant wrote about these feelings in his pre-critical *Observations on the Feeling of the Beautiful and Sublime* of 1764, and analyzed them systematically in Part One of the *Critique of Judgment* (1790).

Tenthly, there is the admiration and reverence (*Bewunderung* and *Ehrfucht*) that Kant famously expressed for 'the starry heavens above and the moral law within'.<sup>204</sup> Many people experience more explicitly religious feelings, contemplation and reverence, even *awe* for the numinous (the *mysterium tremendum* that Rudolf Otto wrote about).

Human beings can experience feelings of all these kinds — though not all at once. The first five are not unique to humans, and in ourselves we cannot always recognize them and self-ascribe them in words. Infants and many animals obviously have feelings of some kinds, and many of us cannot readily articulate our feelings. In adulthood (or what passes for it) we sometimes confess an emotion, and in many cases (though not all) we can give a *reason* for it.<sup>205</sup> But the reason for, or object of, an emotion may not be the same as its cause: annoyance at a malfunctioning toaster is understandable, but if someone's reaction goes over the top the cause of the excess might be a whole series of domestic upsets, bad news on the phone, or a hormonal imbalance. We may not be self-consciously or infallibly aware of our own feelings.

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204 *Critique of Practical Reason*, 5:161.

205 Skorupski (2010) discusses reasons for feelings (as well as for beliefs and actions); but the feelings for which it makes sense to offer reasons are mainly of the sixth, conceptualized type.

## 8.2 TOWARDS A THREEFOLD CLASSIFICATION

In the nineteenth century Charles Darwin wrote a second famous book with the title *The Expression of the Emotions in Man and Animals*, presenting a wealth of evidence (much of it anecdotal) that emotions can be recognized in animals. The pictures of dogs and cats in postures of fear and aggression, or submission and affection, are enough to persuade most of us that our pets display states that we readily describe as fear, anger, or affection; there is also the joyful friskiness of horses and cattle released into a new pasture, and other equine emotions that horsey people know about. Almost all of the first five types of feeling in the above list can be ascribed to various non-human animals. That includes the objectless states in the fourth type, such as the energy and playfulness of the young of so many species, and the dejection or irritability that animals can display in disease or old age.

But how far down the evolutionary scale can we find emotions, or feelings of some kind? In his last chapter Darwin wrote:

Actions of all kinds, if regularly accompanying any state of mind, are at once recognized as expressive. These may consist of movements of any part of the body, as the wagging of a dog's tail, the shrugging of a man's shoulders, the erection of hair, the exudation of perspiration, the state of the capillary circulation, laboured breathing, and the use of the vocal or other sound-producing instruments. Even insects express anger, terror, jealousy and love by their stridulations.<sup>206</sup>

But when Darwin credits even insects with emotions, one may wonder whether the great biologist was succumbing to anthropomorphism. It is easy to describe bees as angry when their nest or hive is disturbed, for their buzz changes its tone. and they may sting the intruder — but can a bee or a grasshopper express *love* or *jealousy*? Some conceptual hygiene is surely called for.

For a start, we should distinguish bodily movements and changes of any kind from *actions* proper, categorized in Chapter 6 as movements

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206 Darwin (1872 /1965), 349.



that are under conscious control in adult humans, and for which reasons can usually be given. Frowning, shoulder-shrugging and speech are not normally premeditated, though we can inhibit them when there is reason to do so. We do not count a cicada's stridulations (shrill jarring sounds) as intentional action in this sense, but we readily recognize *some* animal movements as expressive: a dog's tail-wag shows affection, and a cat's hiss and erect fur shows fear. We can see what they are reacting to, and we can understand why. Darwin, Tinbergen and other ethologists propose to explain how these species have evolved their distinctive behavioural repertoires, as we saw in Chapter 6. There are internal physiological changes that are relevant to the attribution of states of emotion or arousal, such as the perspiration, change of breathing, or blood circulation mentioned by Darwin, or the hormonal and neurophysiological events that scientists such as Damasio have studied in detail.

The distinctively human levels of feeling of the fifth to tenth kinds can be consciously experienced and reported, but we are not always intelligible to ourselves, so there is room for a Freudian concept of unconscious emotion. When emotions are self-ascribed the person can often, but not always, give reasons for them, though there may be personal or cultural inhibitions to doing so. These conscious and conceptualized states are our paradigm cases of distinctively human emotion, so I am going to suggest, for purposes of theoretical clarity, restricting the term 'emotion' to this level of mentality. That is to follow the lead of the threefold distinction between sensory registration, perceptual representation, and perceptual judgment that structures this book.

However, in common usage (and Darwin's) 'emotion' is a family resemblance word that we readily extend to the animals with which we interact in households and farms, and to wild creatures whose perceptions and motivations we think we understand. We thus tend to relax the requirement for self-attribution and reason-giving, and rely on the criteria of bodily movements in furtherance of survival and reproduction. Ethologists can also take into account the physiological states that mediate between perceptions and agency.

Damasio has written a much-praised non-technical book on emotion, consciousness, and neurology, containing far more neurological detail and theory than I can review here. However, there are some terminological and conceptual issues on which I venture to suggest an alternative. He proposes:

The term *feeling* should be reserved for the private, mental experience of an emotion, while the term *emotion* should be used to designate the collection of responses, many of which are publicly observable.<sup>207</sup>

But in view of the many types of feelings reviewed above, I do not feel content<sup>208</sup> with Damasio's restriction of 'feeling' to 'private' mental experiences. We are fully convinced that our pets feel pain when they screech if we tread on their paws, they may also cringe in fear, or react aggressively. Such animals surely feel sensations that are not essentially private, but are as publicly observable as anything is. To be sure, I do not *feel* my cat's pain or fear, nor do I feel my wife's pain, however sympathetic I may be, but I can be quite certain about the reality of those mental states. Damasio seems to assume a questionable philosophical notion of privacy, akin to Galen Strawson's Cartesian conception of the mental that we met in Chapter 1.<sup>209</sup>

On the other hand, Damasio's definition of 'emotion' allows, like Darwin, the attribution of emotions to any creatures that display responses in terms of bodily movements and/or relevant physiological changes.<sup>210</sup> If we were to go on *that* basis alone, insects could be said to harbour emotions, and one would wonder if simpler organisms like ticks or amoebae can have them too; but that would be an extension beyond ordinary usage. Damasio is entitled to his own definitions for his

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207 Damasio (2000), 42.

208 There goes another kind of feeling!

209 Damasio also maintains that there can be states of feeling that are 'represented non-consciously' (2000, 37), and he offers to distinguish several levels of consciousness in the light of some dramatic clinical case-histories; but I cannot do justice to that theorizing here.

210 See Damasio's theory of the five-part 'biological core' underlying all emotions (2000, 51–2).

theoretical purposes, but I want to propose a different conceptualization, in line with the threefold distinctions made in Chapters 1 and 6. I am suggesting, then, that we reserve 'emotion' for the *conceptualized* feelings of the sixth to tenth kinds<sup>211</sup>, and to use the term 'affect' (which has had a use in psychology<sup>212</sup>) for *unconceptualized* states of behavioural arousal of the third to fifth kinds, with their related physiological states.

Such states of arousal are most often prompted by what the animal has perceived in the way of food, predators, prey, potential or actual mates, or offspring. But arousal or affect is sometimes due to internal changes alone, especially in urges to mate: when male elephants come into musk they rampage around looking for fertile females, endangering anything that gets in their way; and when a female snow leopard is in heat she emits distinctive cries to attract a male from distant mountains. Hunger can prompt a predator to go hunting, perhaps to make increasingly desperate attempts, and thirst can prompt any animal to search for water. Lust, hunger and thirst hardly count as emotions, even in humans, but they are certainly urges or drives to behaviour. These states arise from internal physiology, but they can be prompted by the perception of attractive food, drink, or potential mates, as we all know.

What about Darwin's insects, then? When he rather incautiously described them as displaying love and jealousy, he must have had in mind their seeking mates, signaling to them by pheromones or stridulations, fending off the efforts of rivals, and of course copulation itself. It is for entomologists to discern the details, but the general picture for all creatures involves a combination of factors external and internal to the individual. The terms 'affects' and 'impulses' seem etymologically appropriate to mark this distinction between states that are externally or internally caused, but the variety of living forms and behaviours is immense, and sharp conceptual distinctions cannot always be enforced in biology.

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211 Plus the fourth and fifth kinds, *when conceptualized*.

212 For example, see Lisa Feldman Barrett and Eliza Bliss-Moreau (2009).

Talk of environmental factors that have some effect on an individual is ambiguous between the perceptual representation of them, and mere sensory stimulus without representation. This was a major conceptual distinction in Chapter 1, but it is not easy to apply in every instance. Many creatures, including insects, *perceive* the approach of reproductive rivals and chase them away, but when they get to grips with a sexual partner sensory stimulations and internal impulses take over.

The behaviour of organisms incapable of perceptual representation is explained merely by sensory stimuli and internal impulses. Consider amoebae: we may think of them as shapeless blobs that do not do anything, but in a video of them you will see that they are *shapeshifting* blobs that extend temporary ‘arms’ (called ‘polypods’) that enclose and engulf items of nutrition from their watery environment. Famously, they reproduce by mitosis: the cell splits into two, dividing the DNA as it goes, with none of the thrills and spills of romantic love, sexual union, or childcare.<sup>213</sup> Presumably some internal impulse moves them to split at certain times, but whether it also needs an external sensory stimulus biologists can tell. Amoebae meet Aristotle’s criteria for animality: they are self-moving, for they feed and reproduce. I am not saying that they have feelings or emotions, nor even affects, for they do not perceive anything, but they surely have *impulses*, inner causes that move them to their distinctive kind of activity.

To summarize the categorizations I suggest:

Some creatures have only internal *impulses*, prompting activity in response to sensory stimuli or internal physiology.

Some animals have both impulses and *affects*, states of arousal that prompt agency in response to *unconceptualized* perceptions.

Humans have impulses, affects, and *emotions*, the latter being conscious (or normally conscious) states of arousal that motivate actions in response to *conceptualized* perceptions, memories, and anticipations of the future.

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213 A very efficient way of reproducing one’s kind, with no pregnancy and no nappy-changing.

## CHAPTER NINE

# RECONSTRUCTING KANT ON FEELINGS

Kant had something to say about feelings of all the kinds mentioned in the previous chapter.<sup>214</sup> But although he was fond (perhaps overfond) of making distinctions, he did not compile a list corresponding to the ten types I catalogued in 7.1. Let us now examine what he said or implied about the three levels of impulses, unconceptualized affects, and conceptualized emotions.

### 9.1 KANT ON IMPULSES

Kant used the term ‘impulse’ (*Trieb*) in the well-known passage at A534/B562 quoted in Chapter 7, where he declared (without supporting argument) that impulses of sensibility ‘pathologically necessitate’ the behaviour of animals, whereas our human choices are affected, but *not determined*, by them. Hunger, thirst, fear, playfulness, and lust are obvious examples of impulses in animals, and in humans too. In his popular lectures on anthropology Kant also talked of ‘instincts’:

The inner *necessitation* of the faculty of desire to take possession of this object before one even knows it is *instinct* (like the sexual instinct, or the parental instinct of the animal to protect its young, and so forth).<sup>215</sup>

He ascribed some ‘instincts’ to human beings: for people to fall in love, for children to test their powers by risking danger, and (for some males) to indulge in drinking, gambling or hunting.<sup>216</sup> (Those latter three are better described as *propensities*, since the relevant actions are

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214 His terms were *Gefühl*, and *Empfindung* for sensations.

215 *Anthropology* 7:265, see also 7:196.

216 *Anthropology* 7:179, 7:263, 7:269.

prevalent only in certain cultures or classes.) He recognized the impulses of sensuous pleasure and pain (don't we all?), and he remarked that 'pain is the incentive [*Stachel*] of activity, and in this, above all, 'we feel our life: without pain lifelessness would set in'.<sup>217</sup> He also mentioned 'certain internal physical feelings' that are that are momentary and leave no trace, such as shuddering at ghost stories, shivering at the thought of danger, also dizziness and seasickness. There are biological bases for most of these, but there is a cultural element in ghost stories and hunting.

## 9.2 KANT ON AFFECTS AND PASSIONS

We should take note of Kant's use of the term 'affect', and how it relates — not exactly — to the usage proposed in Chapter 8. In several places he contrasted affects (*Affekten*) with passions (*Leidenschaften*), as importantly different from each other. He defined an affect as a temporary reaction, a 'tempest that quickly subsides', e.g., anger about what someone has just done or said, whereas a passion is a desire that has become a lasting inclination, e.g., love or hatred of someone. In affects one does not (and perhaps cannot) 'rise to reflection (the representation by means of reason as to whether he should give himself up to it or refuse it',<sup>218</sup> whereas in passion:

the calm with which one gives oneself up to it permits reflection and allows the mind to form principles upon it and so, if inclination lights upon something contrary to the law to brood upon it, to get it rooted deeply, and so take up what is evil (as something premeditated) into its maxim.<sup>219</sup>

Clearly this reflective conception of passion can apply only to adult humans, but the short-term reactions Kant calls 'affects' include the *unconceptualized* feelings of animals and young children. This would fit with the usage suggested in 8.1, but Kant also counted adult conceptualized reactions as affects.

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217 *Anthropology* 7:231.

218 *Anthropology* 7:251.

219 *The Metaphysics of Morals* 6:408.

At the beginning of his extensive discussion of affects and passions in Book III of the *Anthropology* Kant said, with the severity of a supremely rational (almost Stoic) philosopher, that ‘to be subject to affects and passions is probably always an *illness of the mind*, because both affect and passion shut out the sovereignty of reason’.<sup>220</sup> ‘Affects are honest and open, passions on the other hand are deceitful and hidden’.<sup>221</sup> Only rational, but *imperfectly rational*, beings, such as we are, are subject to passions:

Passion always presupposes a maxim on the part of the subject, to act according to an end prescribed by his inclinations. Passion is therefore always connected with his reason, and one can no more attribute passion to mere animals than to pure rational beings.<sup>222</sup>

He went on to declare, even more trenchantly, that ‘passions are not, like affects, merely *unfortunate* states of mind full of many ills, but are without exception *evil*’.<sup>223</sup>

We must protest, however, that affects are not always unfortunate, and passions not necessarily evil. Falling in love *may* lead to conjugal bliss (or what passes for it), instant liking can blossom into lifelong friendship, anger at injustice or cruelty may prompt appropriate intervention. The joyful affect and emotion of parents on the birth of a baby may be followed by lasting affection for the child and devotion to its welfare. Such affects and passions cannot be condemned as unfortunate or evil, though there are ways they can go wrong, as with everything human. What worried Kant seems to be the loss of conscious reflection, prudential or ethical judgment, and self-control. Notoriously, feelings can get out of proportion, to the detriment of the subject and the harm of others, but the picture of the extreme Stoic (or Sartrean?) philosopher who never feels emotions or acts on them, is not an attractive one. We can admire lifelong passions for music or mountaineering, or biology (though they can conflict with other commitments or duties). Kant

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220 *Anthropology* 7:251, with his emphasis.

221 *Anthropology* 7:252.

222 *Anthropology* 7:266.

223 *Anthropology* 7:267.

himself, a lifelong bachelor, seems to have been very self-controlled,<sup>224</sup> but he supremely exemplified the passion for *philosophy*.<sup>225</sup>

### 9.3 ANIMALITY, HUMANITY, PERSONALITY

In the first part of his late work *Religion within the Boundaries of Mere Reason* (substantial enough to count as a fourth critique) Kant offered a three-level division of human nature which, unusually for him, explicitly involves our animal nature.<sup>226</sup>

1. The predisposition to the *animality* of the human being as a living being;
2. To humanity in him, as a living being and at the same time *rational* being;
3. To his *personality*, as a rational and at the same time responsible *being*.<sup>227</sup>

Kant went on to explain how he understood these three levels, and I will quote his main points about each, before commenting.

1. The predisposition to animality in the human being may be brought under the general title of physical or merely *mechanical* self-love, i.e., a love for which reason is not required. It is threefold: *first*, for self-preservation; *second*, for the propagation of the species, though the sexual drive, and for the preservation of the offspring begotten through breeding; *third*, for community with other human beings, i.e., the social drive.<sup>228</sup>

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224 But see Kuhn's biography (2001) for a detailed picture, which is not the rational stereotype of legend.

225 Admittedly, a minority sport.

226 David Bauermeister (2020) insightfully discusses this passage in the context of Kant's views on religion, education (individual development), and history (species development).

227 *Religion Within the Boundaries of Mere Reason*, 6:26. (Stephen Palmquist has a revised translation in his *Comprehensive Commentary*, but I do not think the verbal differences affect the points I want to discuss.)

228 *Religion* 6:26.



‘Mechanical’ need not mean literally machine-like,<sup>229</sup> Kant was thinking of the operation of physiologically-based biological causes, as opposed to actions performed for reasons. Humans share the three kinds of instinct that Kant mentions here with most mammals, but not with all animals. Turtles do not do childcare, they just lay their eggs in the sand and return to the ocean; the hatchlings have to emerge by themselves and risk the race to the water. Many creatures (and plants) follow this strategy of producing huge numbers of eggs or seeds, with the probability that a few of them will survive and grow. But mammals invest in breast-feeding and childcare (and teaching, in some species) for a small number of offspring. Amongst our nearest relatives, orangutans are solitary, but chimpanzees, bonobos and gorillas are definitely social. All the evidence is that our hominid ancestors lived in social groups, as did the indigenous hunter-gatherers now disappearing from the world. The long dependency of human children with their slow-developing brains means that their parents cannot provide enough physical or cultural resources without a wider society. Any idea from Hobbes or Rousseau that human beings ‘originally’ or ‘naturally’ lived as individuals or nuclear families, is false biology and mythical history. Kant recognized a human drive for community, but it remains to be seen what that amounts to.

The feelings that are characteristic of our animal nature obviously include the bodily sensations and impulses and moods mentioned in the first four items listed in 8.1, such as pain, hunger, lust, tiredness, exuberance in youth, fears of danger, dejection. There are (fifthly) the bonds between partners, and between parents and children, and (sixthly) unconceptualized affects of anger, fear, or friendliness. However, it is not clear what Kant meant by ‘the social drive’, there may be more than one thing falling under that description.

2. The predisposition to humanity can be brought under the general title of a self-love which is physical and yet *involves comparison* (for which

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229 Though the word may remind us of Aristotle’s comparison of animal movements to puppets.

reason is required); that is, only in comparison with others does one judge oneself happy or unhappy. Out of this self-love originates the inclination to *gain worth in the opinion of others*, originally, of course, merely *equal worth*: not allowing anyone superiority over oneself, bound up with the constant anxiety that others might be striving for ascendancy; but from this arises gradually an unjust desire to acquire superiority for oneself over others.<sup>230</sup>

It is hard to see why Kant said this predisposition is ‘physical’: that might mean it must have some physiological basis that neuroscience and genetics can investigate, or perhaps he was thinking of competition for material resources. Social *comparison* seems more mental than physical. And we may wonder why he picked out comparison with others as the main distinction between animality and humanity; it would seem more consistent with his overall philosophy that it is ‘reason’ (understood broadly as the capacity for making judgments, and giving reasons for beliefs, actions and emotions) that makes the most essential difference, with social comparison and competition as a corollary.

There is an echo here of Hobbes, and a louder echo (almost a quotation) of Rousseau’s distinction between individual self-love (as in Kant’s first paragraph), and the kind of self-love that involves comparison with others.<sup>231</sup> But we can find antecedents of this in some animals. In social primate groups there is a hierarchy of rank, with a dominant male at the top. Rank can be contested, and an alpha male who gets older or weaker will be deposed. There is an element of social comparison here: members of the band know their present place in the hierarchy, but may try to challenge it. It does not involve ‘reason’ if that means use of language, but it does involve recognition of certain individuals as standing in social relations. Some *intra*-tribal (as well as *inter*-tribal) competition for resources and reproduction must have existed in our hominid ancestors, and social and ethical ways of regulating it have emerged. Given our long and gradual evolution, there will be no definite

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230 *Religion* 6:27.

231 See Rousseau’s *Emile*, Part 4.

point where we can say that rationality, conceptualized comparison with others, or social ethics, kicked in. It is not clear that we can separate morality into a third level, as Kant did in his third paragraph. In the light of Darwin and our expanding knowledge of our hominid ancestors, the concept of humanity has blurred edges.

The feelings that characterize Kant's second level will include the superiority and inferiority that Rousseau emphasized, the bonds between marriage partners, parents and children, and other close relatives and friends, and the interpersonal relations such as gratitude or resentment between people more generally.<sup>232</sup>

3. The predisposition to personality is the susceptibility to respect for moral law *as of itself a sufficient incentive to the power of choice*. This susceptibility to simple respect for the moral law within us would thus be the moral feeling, which by itself does not constitute an end of the natural predisposition but only insofar as it is an incentive of the power of choice. But this is possible only because the free power of choice incorporates moral feeling into its maxim ... The idea of the moral law alone, together with the respect that is inseparable from it, cannot properly be called a predisposition to personality; it is personality itself (the idea of humanity considered wholly intellectually). The subjective ground, however, of our incorporating this incentive into our maxims seems to be an addition to personality, and hence seems to deserve the name of a predisposition on behalf of it.<sup>233</sup>

Kant saw great importance in distinguishing this third level involving 'personality' and morality from mere rational, competitive 'humanity', and wheeled in some of his heavy-duty moral philosophy from the *Groundwork* and the second *Critique*. His account of 'the moral law' (in the singular) is an abstract philosophical theory which professional philosophers continue to debate.<sup>234</sup> Yet he wanted to say

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232 See Strawson (1962) for a modern classic discussion. When conceptualized, these will count as emotions rather than affects according to the terminology suggested in Chapter 8.

233 *Religion* 6:27–8.

234 But not in this work.

(with Rousseau) that there is genuinely admirable moral feeling in ordinary non-intellectual people, however mixed up with less virtuous tendencies. Thus, he talks of a 'subjective ground' of moral feeling as a predisposition to good that lies in human nature, along with the propensity to evil that he analyzes in detail in the first part of the *Religion*. But it is not clear that a sharp distinction can be drawn between social and ethical feelings, either in our evolution or in contemporary human nature.

#### 9.4 KANT ON MORAL FEELING

Kant insisted (notoriously, in the view of Schiller<sup>235</sup>) on a strict distinction between even the most admirable human feelings of sympathy, compassion, or love, and respect (*Achtung*) for the moral law. Schiller encapsulated a common reaction against the apparent devaluing of interpersonal feeling, but the main point in Kant's defence is that our feelings cannot always be relied upon, and need to be guided and disciplined by moral principles. In the first chapter of the *Groundwork* he argued that the distinction between emotions and respect is implicit in common, non-philosophical morality. Action motivated solely by feelings of compassion, in which the agent may 'find an inner gratification in spreading joy around them ... still has no true moral worth, but stands on the same footing as other inclinations ... for the maxim lacks moral content, namely to perform such actions not from inclinations, but *from duty*'.<sup>236</sup> The representation of the [moral] law in

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235 Schiller's satire went like this:

*Scruples of Conscience*

I like to serve my friends, but unfortunately I do it by inclination  
And so often I am bothered by the thought that I am not virtuous.

*Decision*

There is no other way but this! You must seem to despise them  
And do with repugnance what duty bids you.

236 *Groundwork* 4:398.

itself ... can take place only in a rational being',<sup>237</sup> and reason 'issues its prescriptions unrelentingly, yet without promising anything to the inclinations'.<sup>238</sup>

This raises a fundamental question about what Kant means by his ubiquitous term 'reason' (*Vernunft*).<sup>239</sup> In the first pages of the *Groundwork* we find ambiguities similar to those we have noted in the *Religion*:

We may have misunderstood Nature's purpose in assigning Reason to our will as its ruler ... In the natural predisposition of an organized being, i.e. one arranged purposively for life, we assume a principle that no organ will be found in it for any end that is not also the most fitting for it and the most suitable. Now in a being that has reason and a will, if the actual end of Nature were its *preservation*, its *prosperity*, in a word its *happiness*, then she would have made very bad arrangements for this in appointing the creature's Reason as the accomplisher of this purpose. For all the actions that it has to perform with a view to this purpose, and the whole rule of its conduct, would be marked out for it far more accurately by instinct, and that end would thereby have been obtained much more reliably than can ever be done by reason ... Nature would have prevented Reason from striking out into *practical use*.

... For since reason is not sufficiently fit to guide the will reliably with regard to its objects and the satisfaction of all our needs (which in part it does itself multiply) — an end to which an implanted natural instinct would have led much more reliably — but reason as a practical faculty, i.e. as one that is meant to influence the *will*, has yet been imparted to us, its true function must be to produce a *will that is good*, not for other purposes *as a means*, but good *in itself* — for which reason was absolutely necessary — since everywhere nature has gone to work purposively in distributing its predispositions.<sup>240</sup>

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237 *Groundwork* 4:401.

238 *Groundwork* 4:405.

239 See also my discussion in 7.4. 'Reason' and 'Nature' are sometimes capitalized and referred to with the feminine pronouns in Kant's text, which Jens Timmerman says indicates *allegorical* usage: see his footnote to 4:394–5 in the Cambridge edition of the *Groundwork*.

240 *Groundwork* 4:394–6.

Readers may pass over this passage quickly, seeing it as merely rhetorical or allegorical, or if taken literally, as appealing to an indefensible teleological conception of 'Nature's purpose'. Theists will interpret it in terms of God's purpose in creation, and Kant approached close to that theme in the closing sections of the third *Critique*. However, his theology was more moral than metaphysical, and there is little indication that he was thinking theologically in the *Groundwork*.

I suggest it is more plausible to read his argument in biological terms, especially in light of the sentence about the natural purpose of organs in living beings. Kant was writing before Darwin, and did not have the conception of evolution by natural selection (though he veered near it),<sup>241</sup> but he obviously thought that our physical and mental endowments serve some purpose. 'Reason' is not literally an organ, but a faculty, a mental ability (or cluster of abilities); and biology recognizes instinctual behaviour-patterns and innately-based mental capacities. But we cannot make sense of the question 'What is Nature's purpose in endowing human beings with reason?' until we know what we mean by 'Reason'. On that, there is an important ambiguity: does Kantian 'Reason' mean intelligence, or morality, or both?

Since intelligence of various grades is found amongst the higher animals, and is rather unevenly distributed among humans, let us identify the distinctive form of basic human reason as *cognition*, involving concepts, judgments, and elementary inferences.<sup>242</sup> In those terms, Kant's claim that our preservation and prosperity is best served by instinct rather than reason seems blatantly false. Lower creatures tend to operate by instinct only, with little or no flexible responsiveness to circumstance; but some mammals, especially primates, manifest

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241 See Alix Cohen (2020) for a balanced discussion of how close Kant got to Darwin.

242 Kant structured the first *Critique* into the Analytic, in which our faculty of understanding (*Verstand*) deals with concepts and judgments, and the Dialectic, in which our faculty of reason (*Vernunft*) deals with inferences. But the content of the Dialectic concerns a sophisticated kind of inference to ultimate explanations in terms of 'the unconditioned', which is not relevant in the present context. So I propose to characterize basic human reason as suggested here.

intelligence, the use of tools, and even some cultural differences. Our hominid ancestors developed larger brains and greater intelligence that enabled them to expand out of Africa and adapt to very different climates and environments. A crucial use of human reason is the agricultural revolution, when people learned to grow food by planting seeds and waiting months for the payoff. That was done by elementary inductive reasoning, not instinct. There have been many more applications of reason in farming, technology and medicine; whether that has made us *happier* than the Neanderthals or hunter-gatherers is an unanswerable question, but it has enhanced our survival and reproduction (until now).

Kant obviously had in mind a *morally* practical conception of reason as ‘influencing the will for good’, not just as a means, but good in itself, i.e., the ‘good will’ identified in the first sentence of the *Groundwork* as the only thing that is good “without limitation”. But his talk of ‘Nature’s purpose in assigning Reason to our will as its ruler’ seems to be merely a rhetorical way of asserting that we ought to guide our actions by reason. There is always need for mediating conflicts of interest within families, and between tribes and nations. Every society has developed an ethic of some sort, involving conceptions of roles and obligations, to family members, and to the wider community. Yet what counts as ‘a good will’ can vary between societies and epochs.<sup>243</sup> His very abstract formulation of moral law as the categorical imperative may be impressive, but is it really given to us *a priori*, independently of our human biology and our cultural developments?

Kant’s severity in the *Anthropology* about even *admirable* feelings and dispositions was moderated elsewhere. In the last section of his treatment of aesthetic judgment in the third *Critique* he wrote:

Humanity (*Humanitat*) means both the universal *feeling of sympathy*, and the ability to engage universally in very intimate *communication*. When

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243 Kant’s conception of it was surely influenced by the simple pietism of his working-class parents, though less by the institutionalized and fanatical Pietism of the *Collegium Fredericanum* that he attended for eight years, or by the honour codes of the wealthy families who employed him as house tutor.

these two qualities are combined, they constitute the sociability that befits our humanity (*Menschheit*) and distinguishes it from the limitation characteristic of animals.' (5:355)

Here 'humanity' appears in a more positive light than in the *Religion*, where it is presented in terms of the more questionable dispositions to feelings of superiority or inferiority.

In his late work *The Metaphysics of Morals* Kant recognized duties of beneficence, gratitude, and sympathy. In the section entitled 'Sympathetic feeling is generally a duty' he says that nature has already implanted in human beings receptivity to feelings of sympathetic joy and sadness, but he insists that we must do something to *encourage* such feelings. In his words, we have 'the duty of humanity' to use such feelings 'as a means to promoting active and rational benevolence'; we have 'an indirect duty to cultivate the compassionate natural (aesthetic) feelings in us', therefore we should not avoid contact with poverty, sickness, or prisons. Schiller might be partially placated, but this seems a rather indirect and tortuous way of recognizing the importance of warm positive feelings in our human interactions. Surely our attention should be on the plight of the suffering, and on what we are able to do to help, rather than on self-centredly 'cultivating' our own feelings. Sometimes our feelings can get in the way of what is required: the trainee surgeon will have to overcome his revulsion from cutting bodies open, and the psychotherapist should not get emotional herself but must *think* what will benefit her client — but these are relatively unusual cases. To be fair to him, Kant began this section by saying that 'it is a duty to sympathize *actively*' (my emphasis) with those who suffer.

Sometimes, one feels, Kant is his own worst enemy, with his heavy emphasis on 'morality' and 'duty', and his sharp contrast with 'inclinations' and 'feelings'.<sup>244</sup> However, recent interpreters such as Marcia Baron<sup>245</sup> have emphasized the importance of what Kant calls 'imperfect' or 'wide' duties, which he summarized as duties to perfect

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244 His rather unpoetic 'ode to duty' in the second *Critique* at 5:86 does not help much.

245 Baron (1995).



one's own talents, and to promote the happiness of others (5:355). The words 'morality', 'obligation', and 'duty' seem most appropriate to the 'perfect' or 'narrow' duties, which are primarily negative: *not* to make false promises, *not* to commit suicide — and we can add from the Biblical commandments: do not commit murder, do not commit adultery, do not steal, do not give false witness. These are all concerned with respect for the rights of others, or in the case of suicide, respect for oneself as a rational being. The word 'respect' fits these cases, but they are surely only *half* of what we ought to do, or indeed what we should aspire to *be*, by ways of 'ideals' and 'love'. There is point, therefore, in making a distinction between *morality* (primarily negative) and *ethics* (primarily positive). Kant himself remarked that Jesus's twin-track summary of the commandments as 'Love God above all, and your neighbour as yourself' agrees with the whole tenor of his moral philosophy.<sup>246</sup>

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246 *Critique of Practical Reason*, 6:83.



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